



# MAGLEV DEPLOYMENT PROGRAM



SOUTHERN CALIFORNIA



ASSOCIATION of  
GOVERNMENTS

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June 8, 2006

LOCKHEED MARTIN



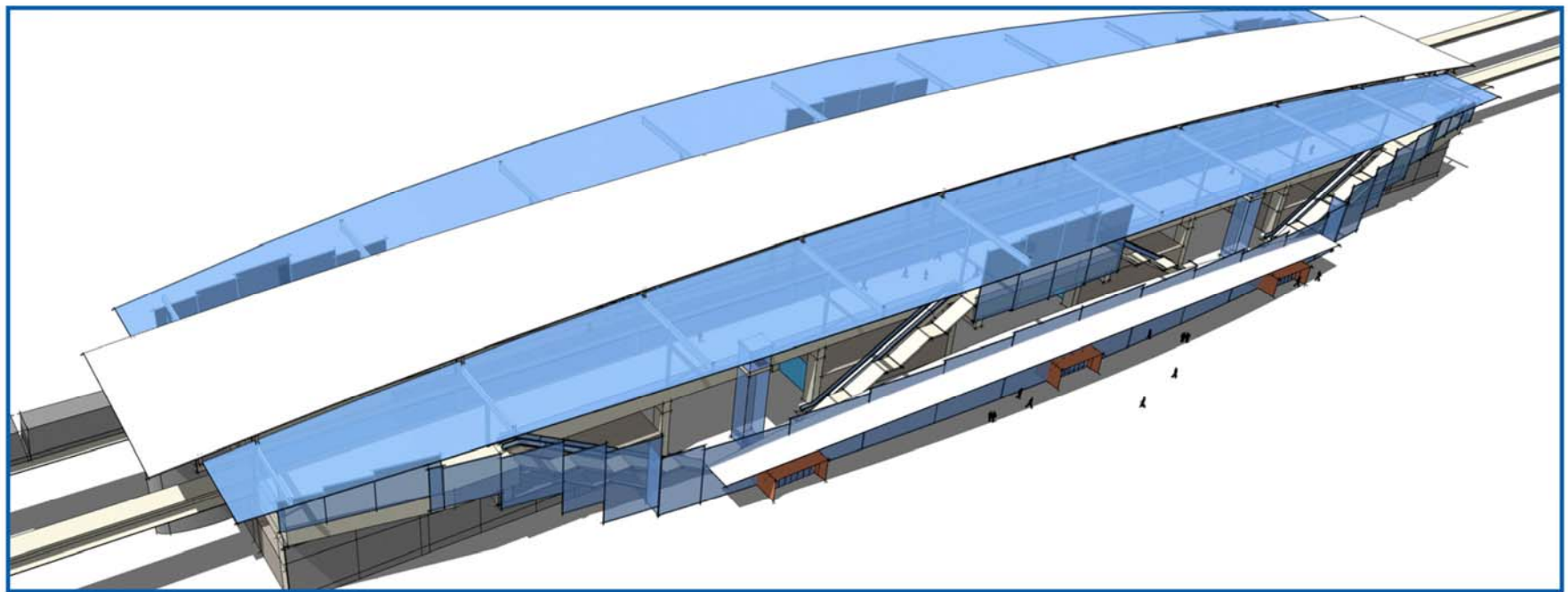
  
Transrapid International - USA

## SCHEDULE OF UPCOMING PRESENTATIONS

- ✓ **April 2006 – System Overview/Design Approach**
- ✓ **May 2006 – Discussion of Alignment Design**
- June 2006 – Reviews of Station Concepts/MF
- **July 2006 – Summary of IOS Design**
- **August 2006 – Summary of Costs/Next Steps**

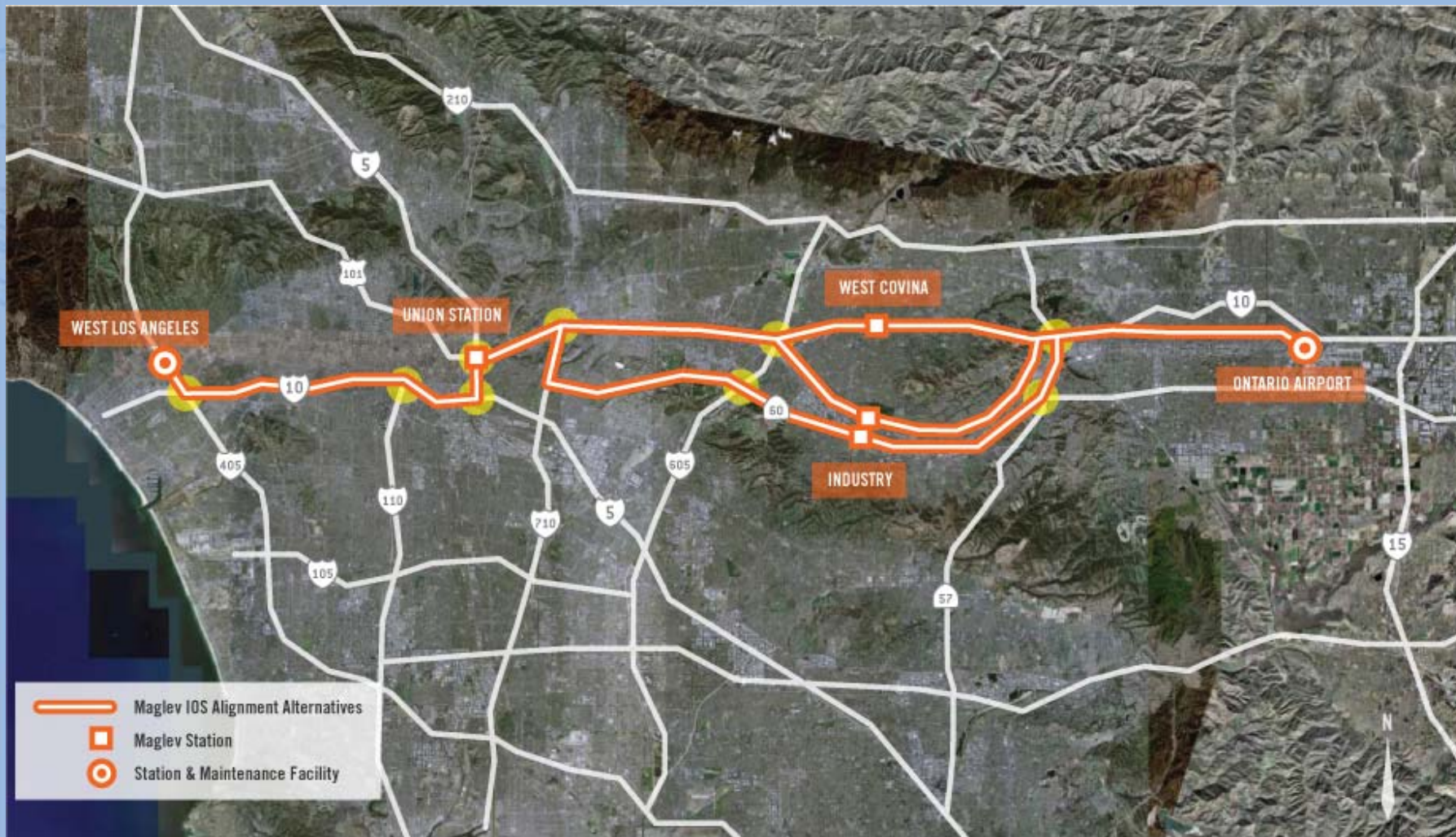
## TODAY'S FOCUS

- Stations and Maintenance Facility
  - Four stops along the IOS: ONT, SGV, LAUPT, WLA
  - Four station configurations, two maintenance facilities
  - Design assumes 6-car trains with expansion capabilities



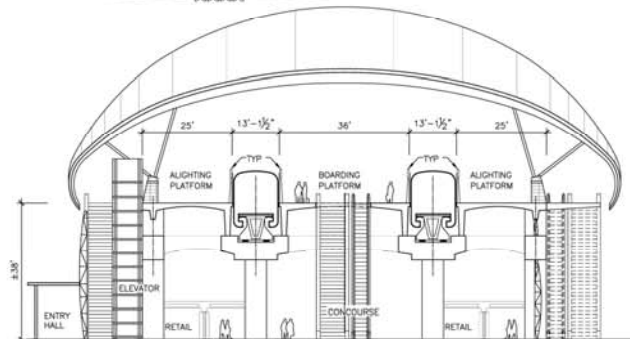


# IOS CORRIDOR – WEST LA TO ONTARIO

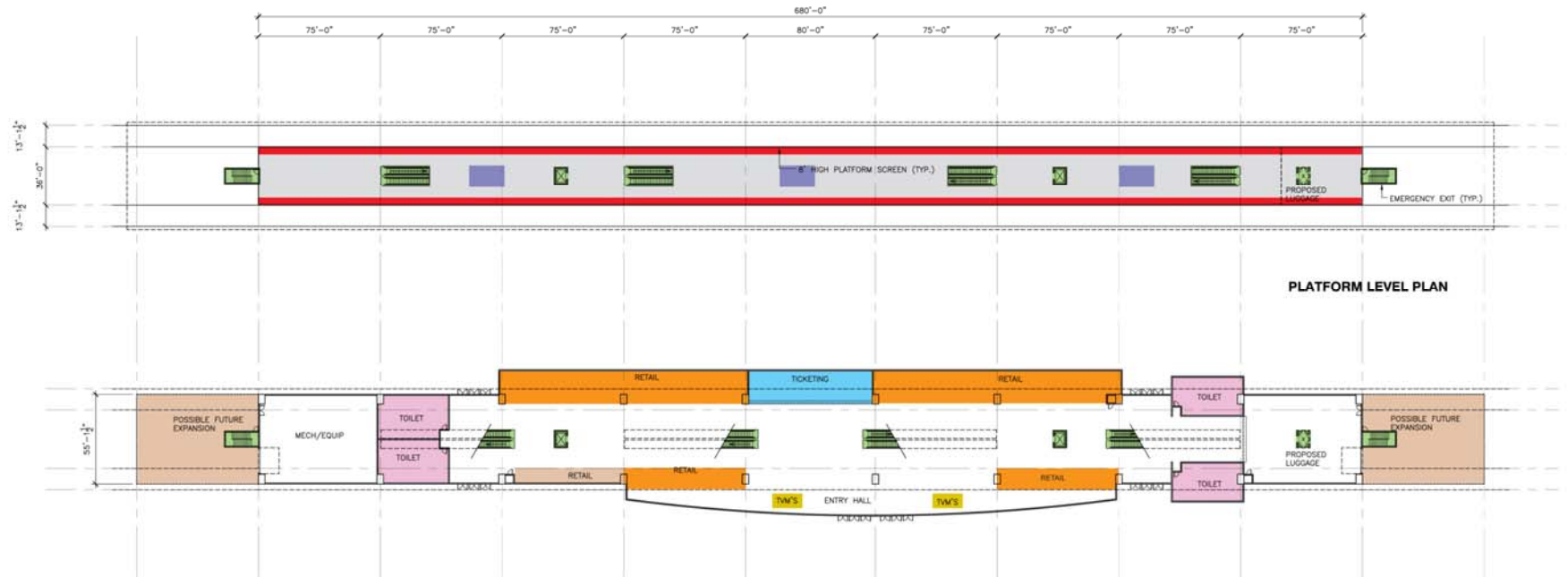




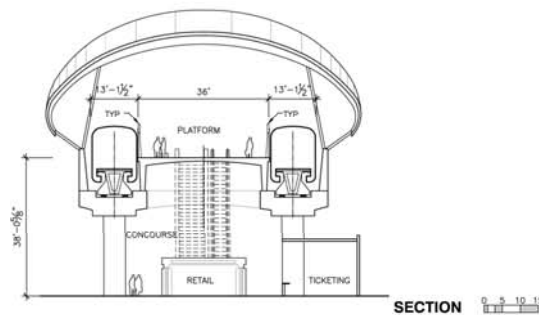
# CENTER-SIDE PLATFORM TYPICAL STATION



# SIDE PLATFORM TYPICAL SECTIONS



- Ticket vending machines
- Ticket/Information counter
- Retail
- Future expansion
- Restrooms
- Platform accessible by escalators/stairs/elevators
- Seating
- Sliding Platform doors



## STATION DESIGN APPROACH

- Design – Different types used to fit the function
- Minimize right of way requirements, ability to interface with adjacent land use
- Provide parking but multimodal in design
- Streamlined, modular and open design – reflects modern technology, materials and movement
- Modules to handle ticketing, concessions, baggage handling capabilities



# ONTARIO AIRPORT STATION

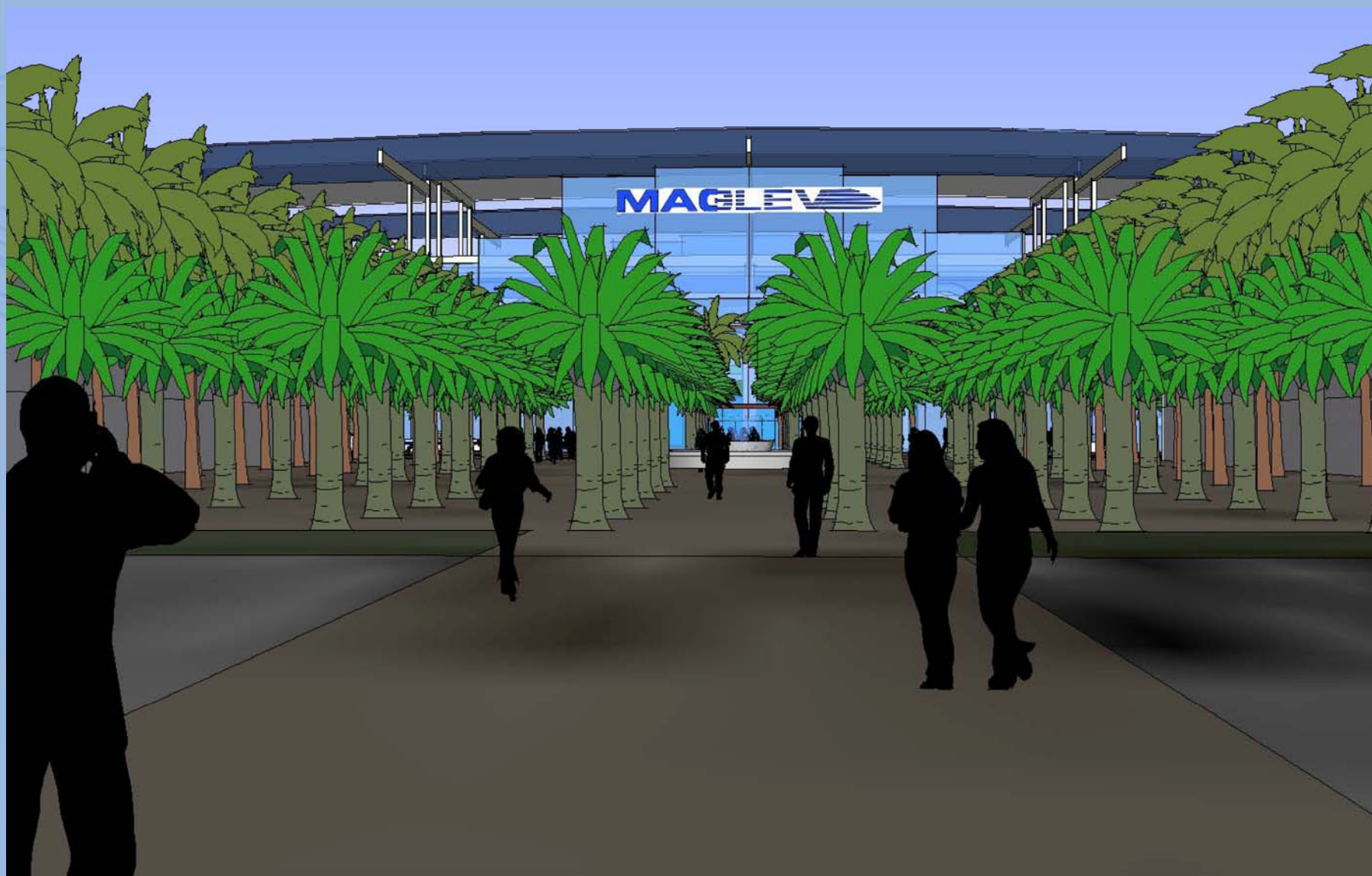




# STATION LAYOUT AND ASSOCIATED FACILITIES – ONTARIO AIRPORT



## STATION LAYOUT AND ASSOCIATED FACILITIES – ONTARIO AIRPORT

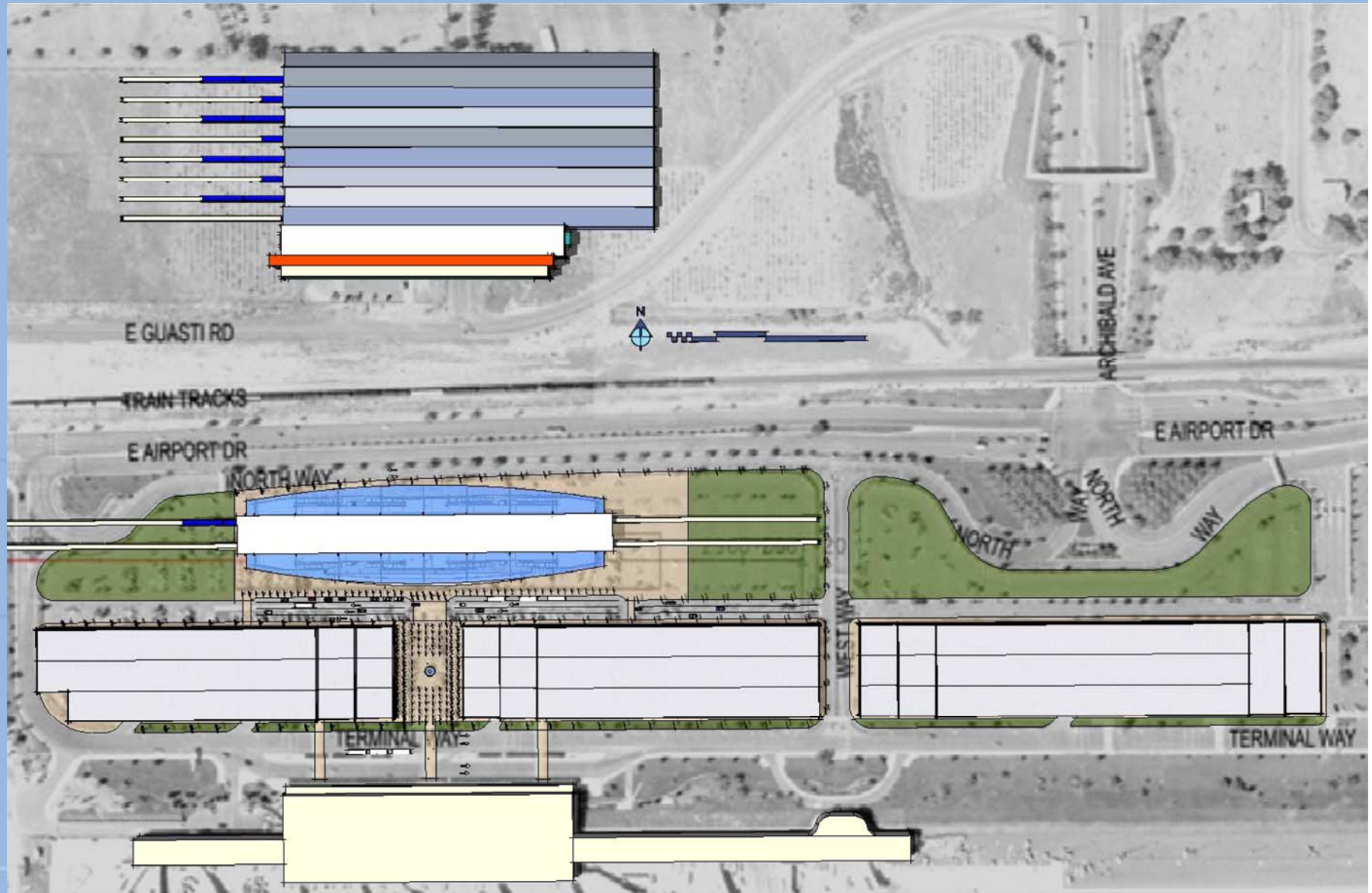




## STATION LAYOUT AND ASSOCIATED FACILITIES – ONTARIO AIRPORT



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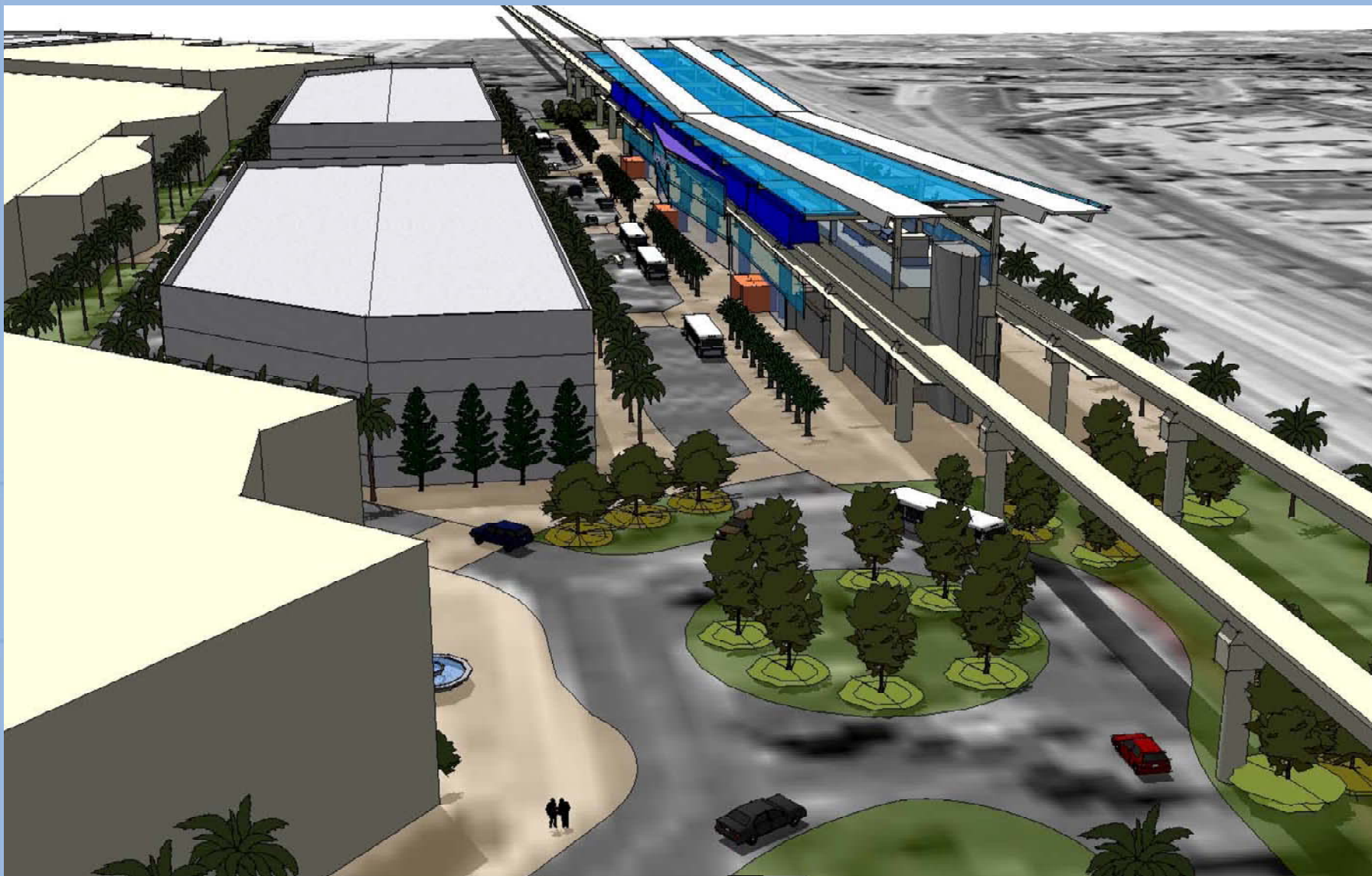


# PARKING MATRIX – ONTARIO AIRPORT

Parking Structure	Floor Plate	Floors	Total
Bldg A			
Levels 1 - 4	124,408	4	497,632
Level 5	110,940	1	110,940
Level 6	97,472	1	97,472
Total			706,044
Bldg B			
Levels 1 - 4	129,220	4	516,880
Level 5	115,752	1	115,752
Level 6	102,284	1	102,284
Total			734,916
Bldg C			
Levels 1 - 4	167,102	4	668,408
level 5	140,166	1	140,166
level 6	113,230	1	113,230
Total			781,638
Grand Total			2,222,598
Area per car	375		5,927
Parking Required			5,781



## WEST COVINA STATION (OPTION 1)



## STATION LAYOUT AND ASSOCIATED FACILITIES – WEST COVINA (1)





# STATION LAYOUT AND ASSOCIATED FACILITIES – WEST COVINA (1)

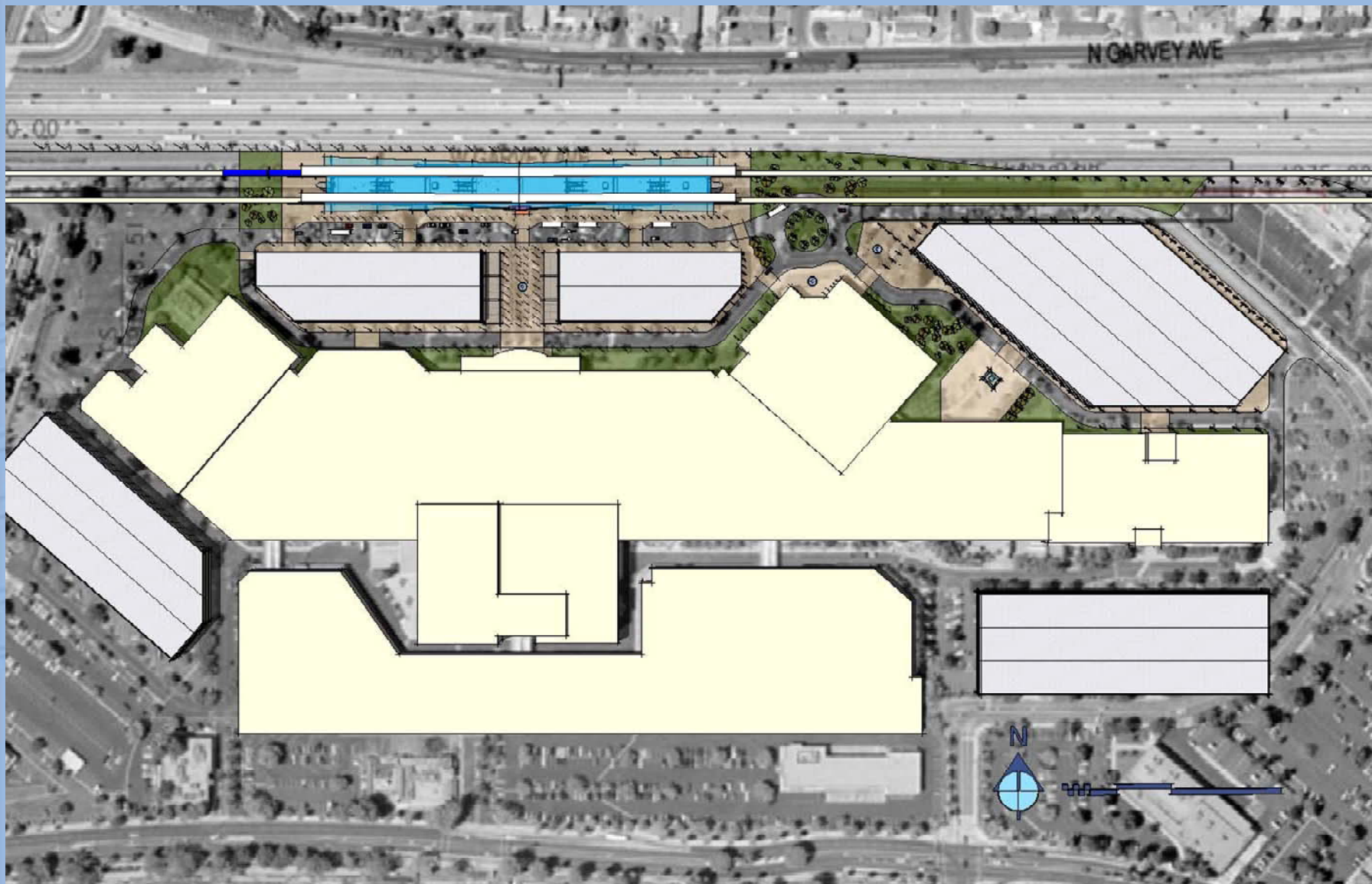




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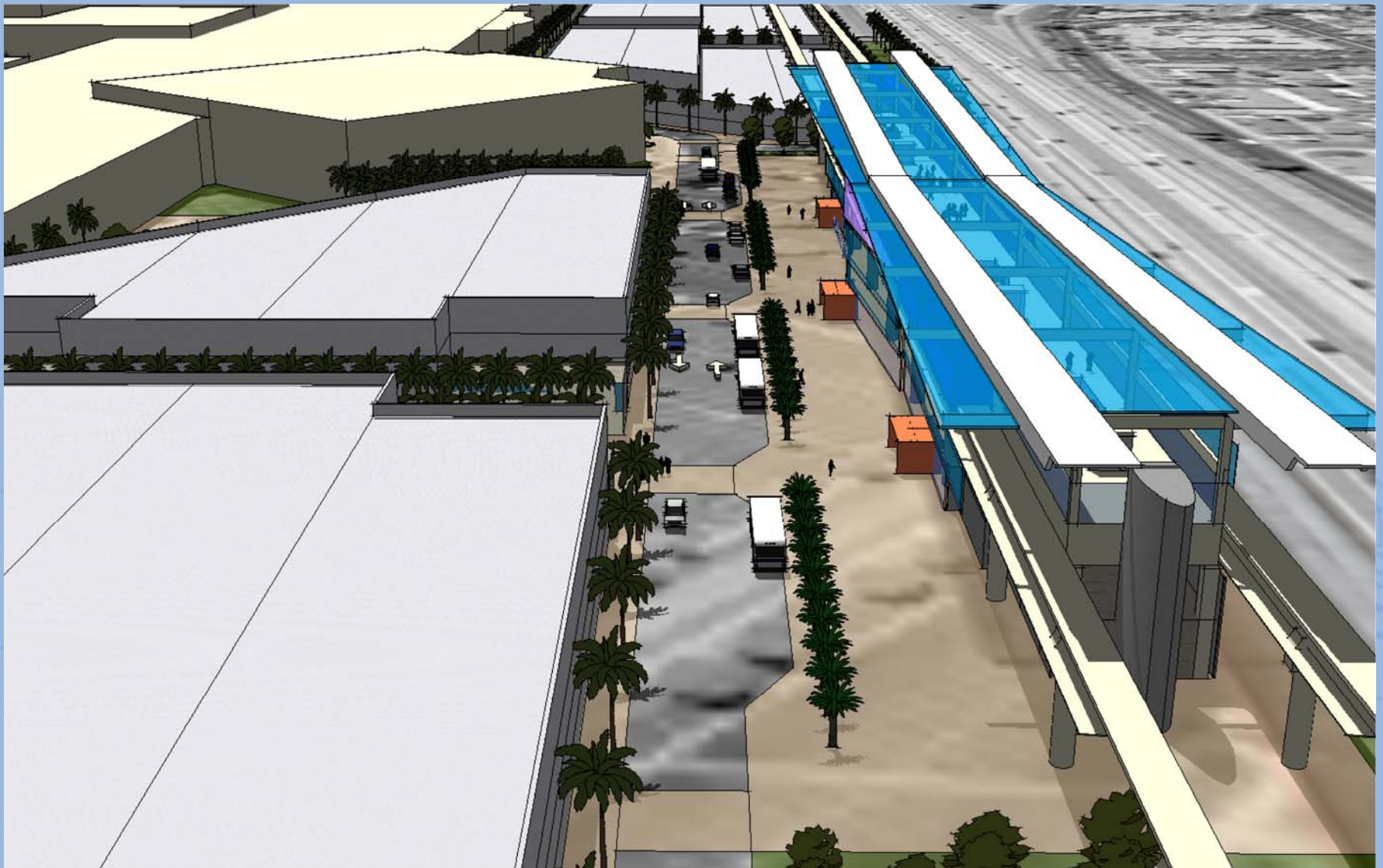


# PARKING MATRIX – WEST COVINA (1)

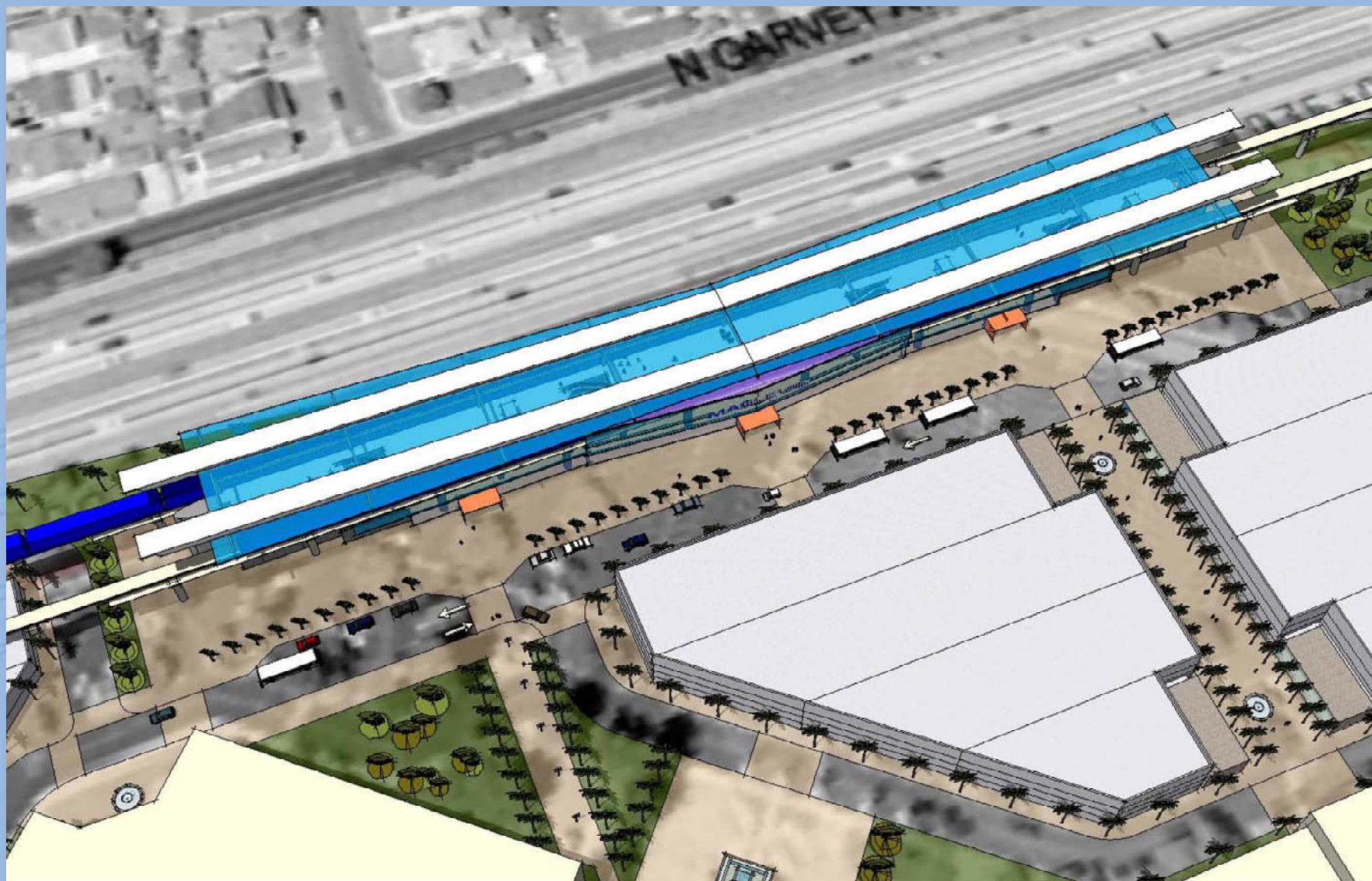
Parking Structure	Floor Plate	Floors	Total
Bldg A Levels 1 - 5	47,248	6	283,488
Bldg B Levels 1 - 5	38,255	6	229,530
Bldg C Levels 1 - 5	138,903	6	833,418
Bldg D Levels 1 - 5	94,677	6	568,062
Bldg E Levels 1 - 5	78,914	6	473,484
Grand Total			2,387,982
Area per car	375		6,368
Parking Required			6,618



## WEST COVINA STATION (OPTION 2)



## STATION LAYOUT AND ASSOCIATED FACILITIES – WEST COVINA (2)





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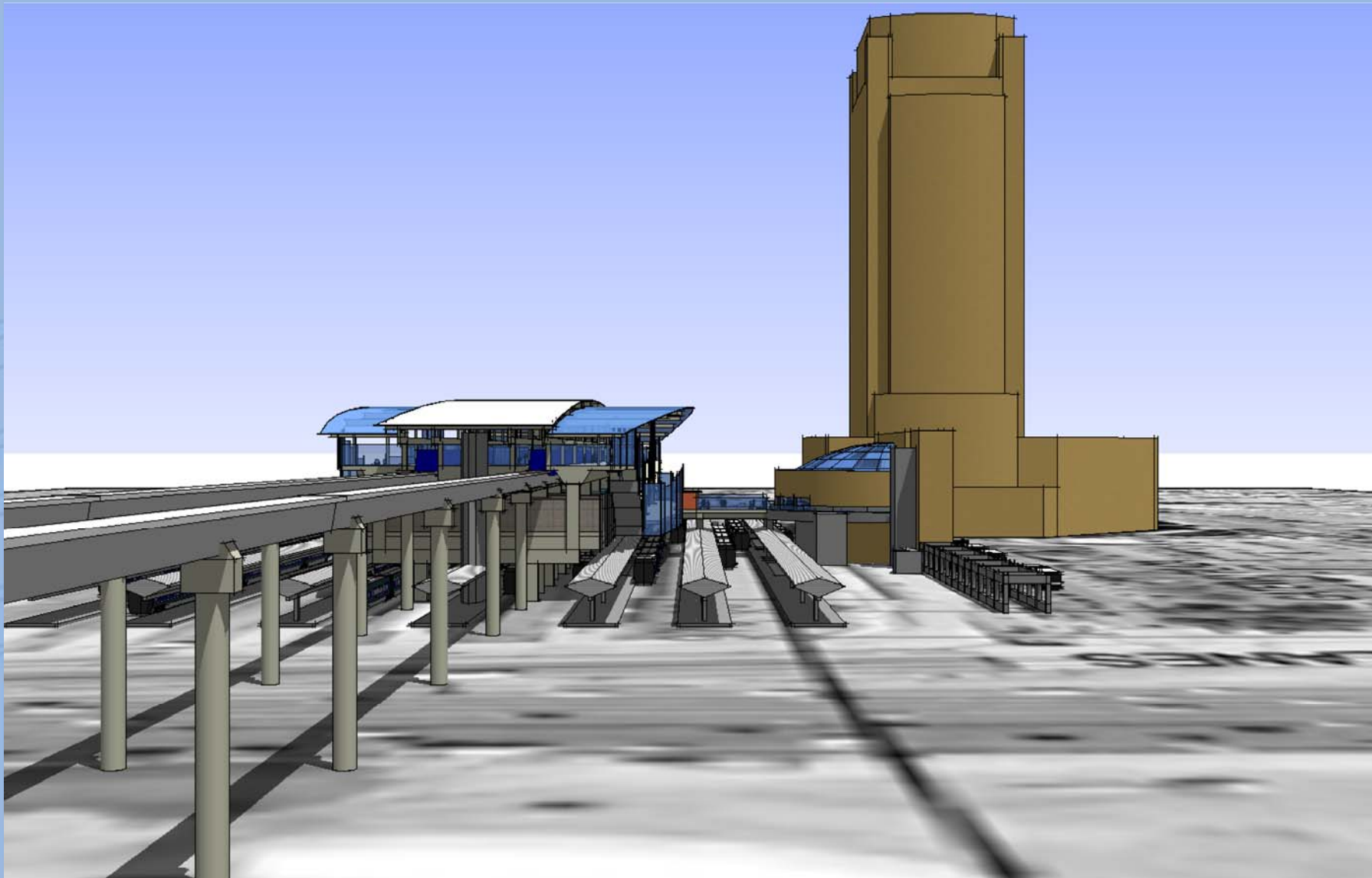


## PARKING MATRIX – WEST COVINA (2)

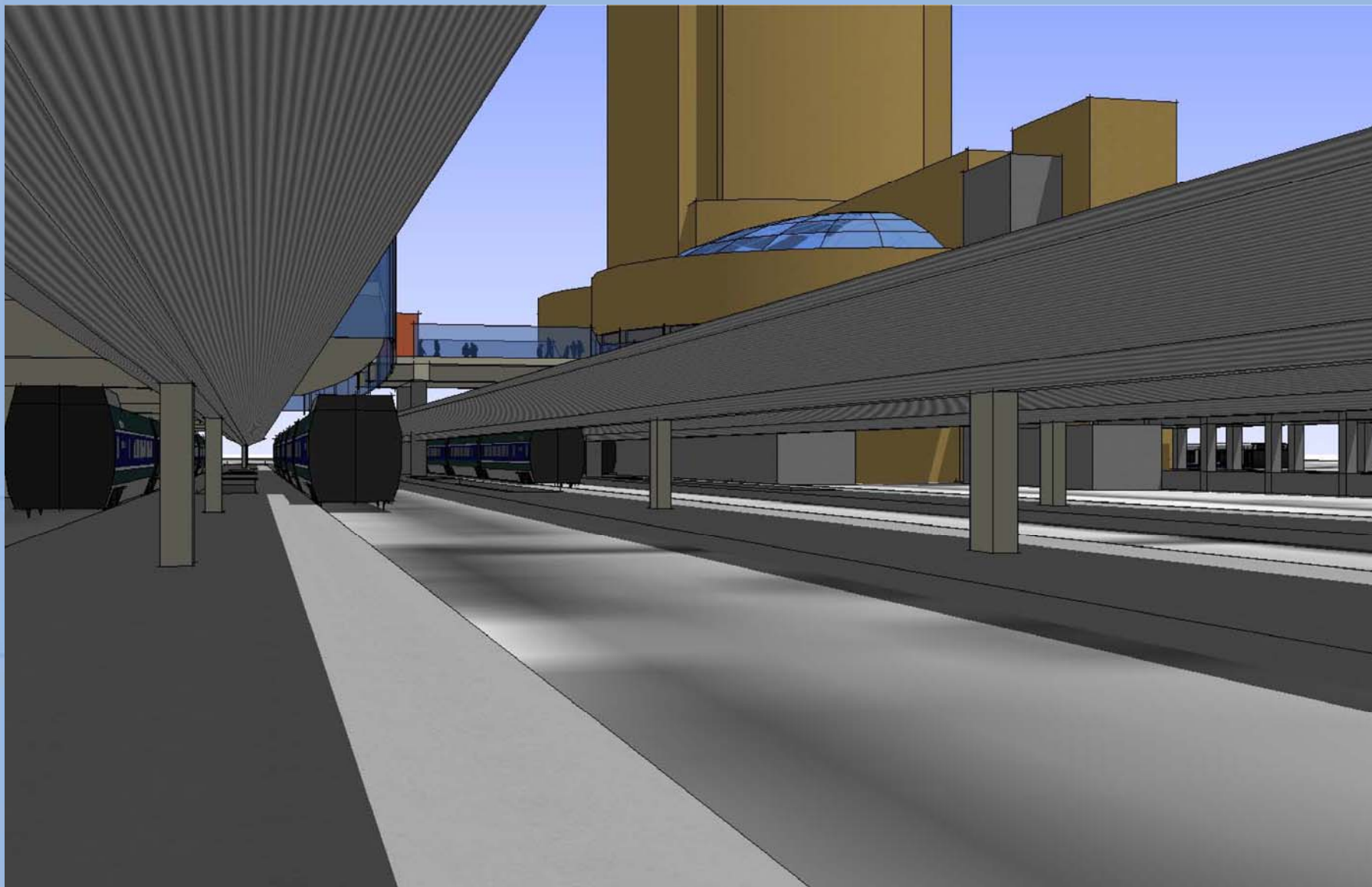
Parking Structure	Floor Plate	Floors	Total
Bldg A			
Levels 1 - 3	99,847	3	299,541
Levels 4 - 5	48,301	2	96,602
Total			396,143
Bldg B			
Levels 1 - 3	94,534	3	283,602
Levels 4 - 5	41,145	2	82,290
Total			365,892
Bldg C			
Levels 1 - 5	48,977	5	244,885
Bldg D			
Levels 1 - 5	85,636	5	428,180
Bldg E			
Levels 1 - 5	94,677	6	568,062
Bldg F			
Levels 1 - 5	78,914	6	473,484
Grand Total			2,476,646
Area per car	375		6,604
Parking Required			6,618



# LOS ANGELES UNION PASSENGER TERMINAL STATION

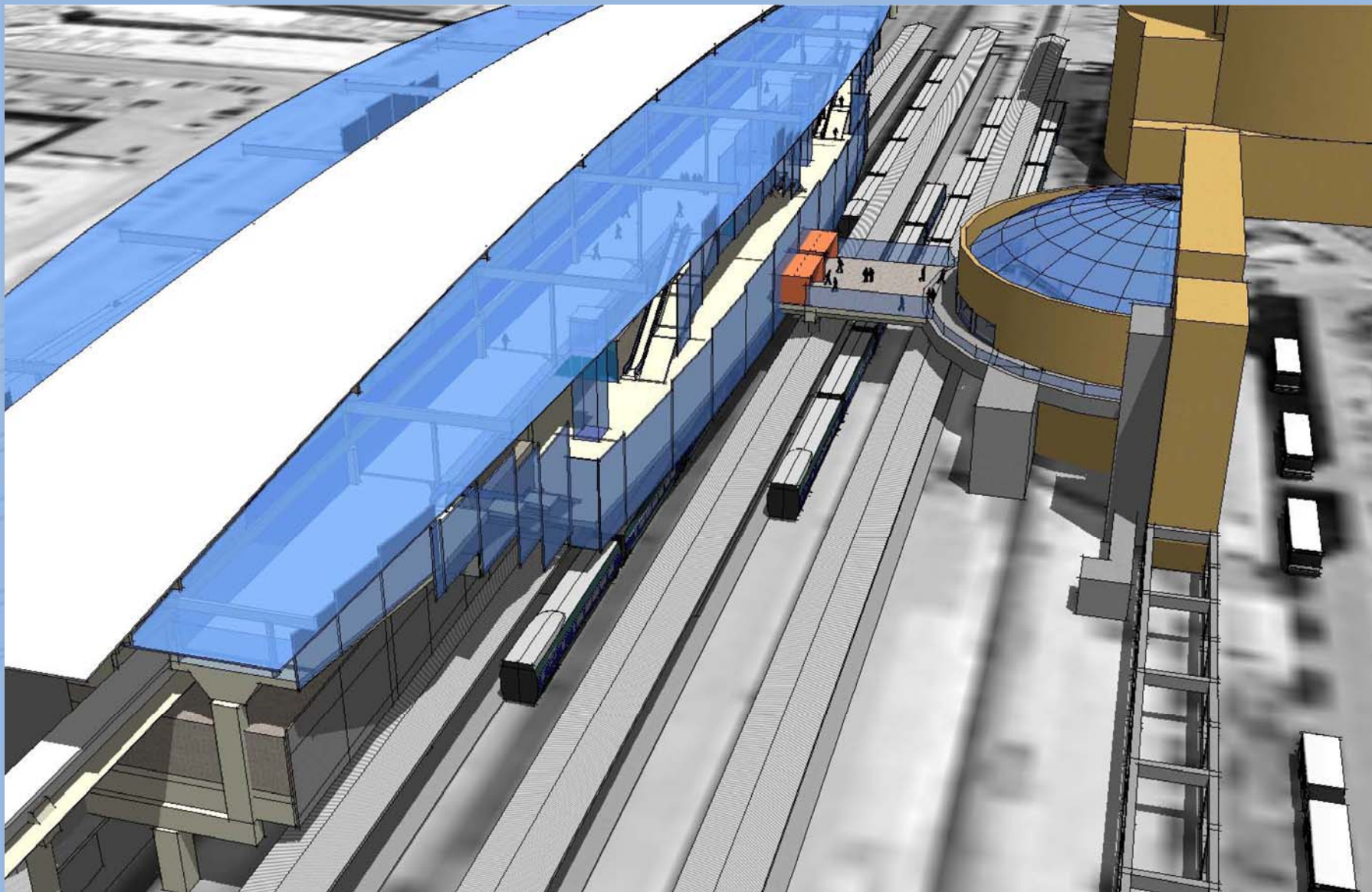


## STATION LAYOUT AND ASSOCIATED FACILITIES – UNION STATION



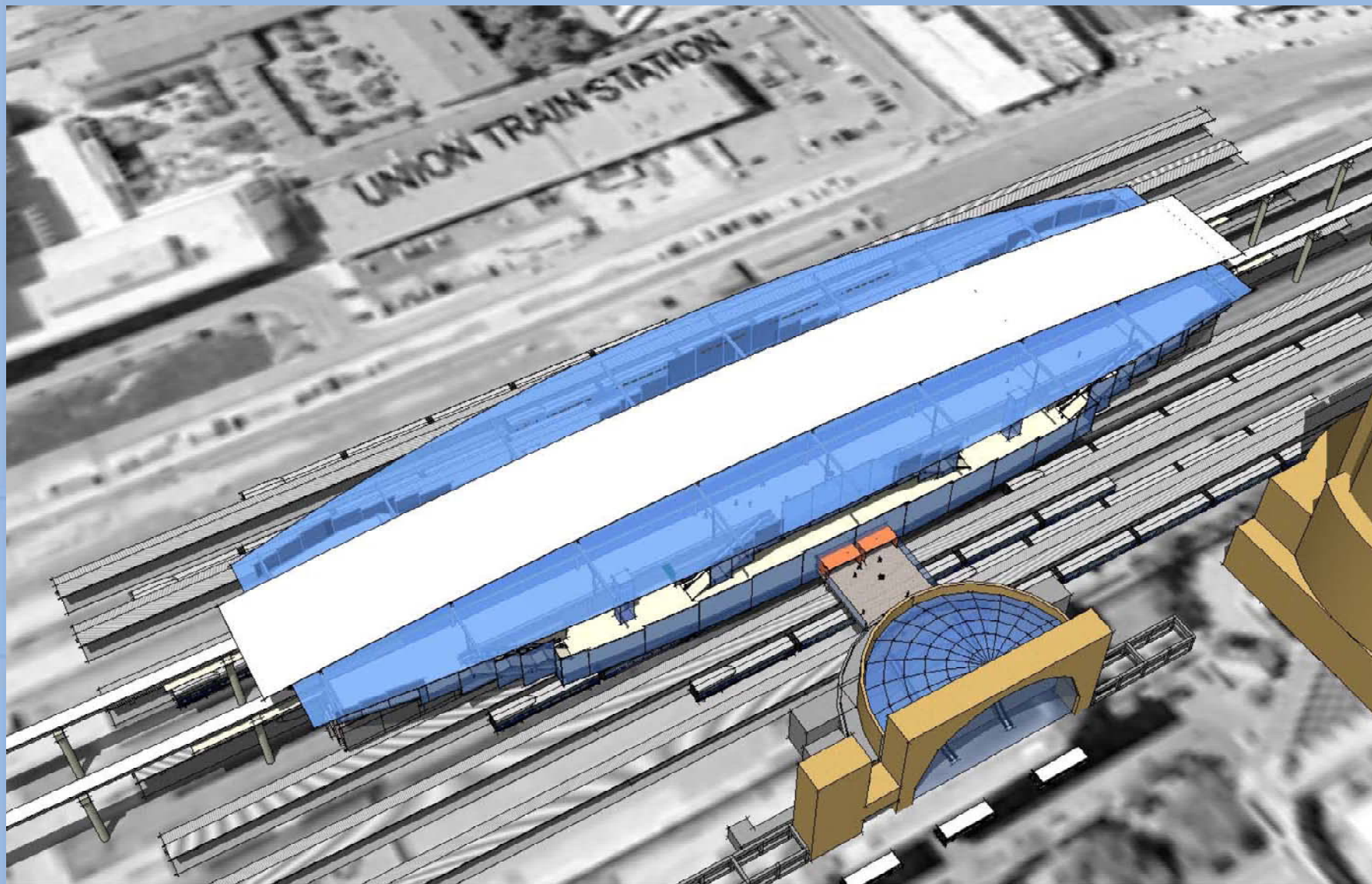


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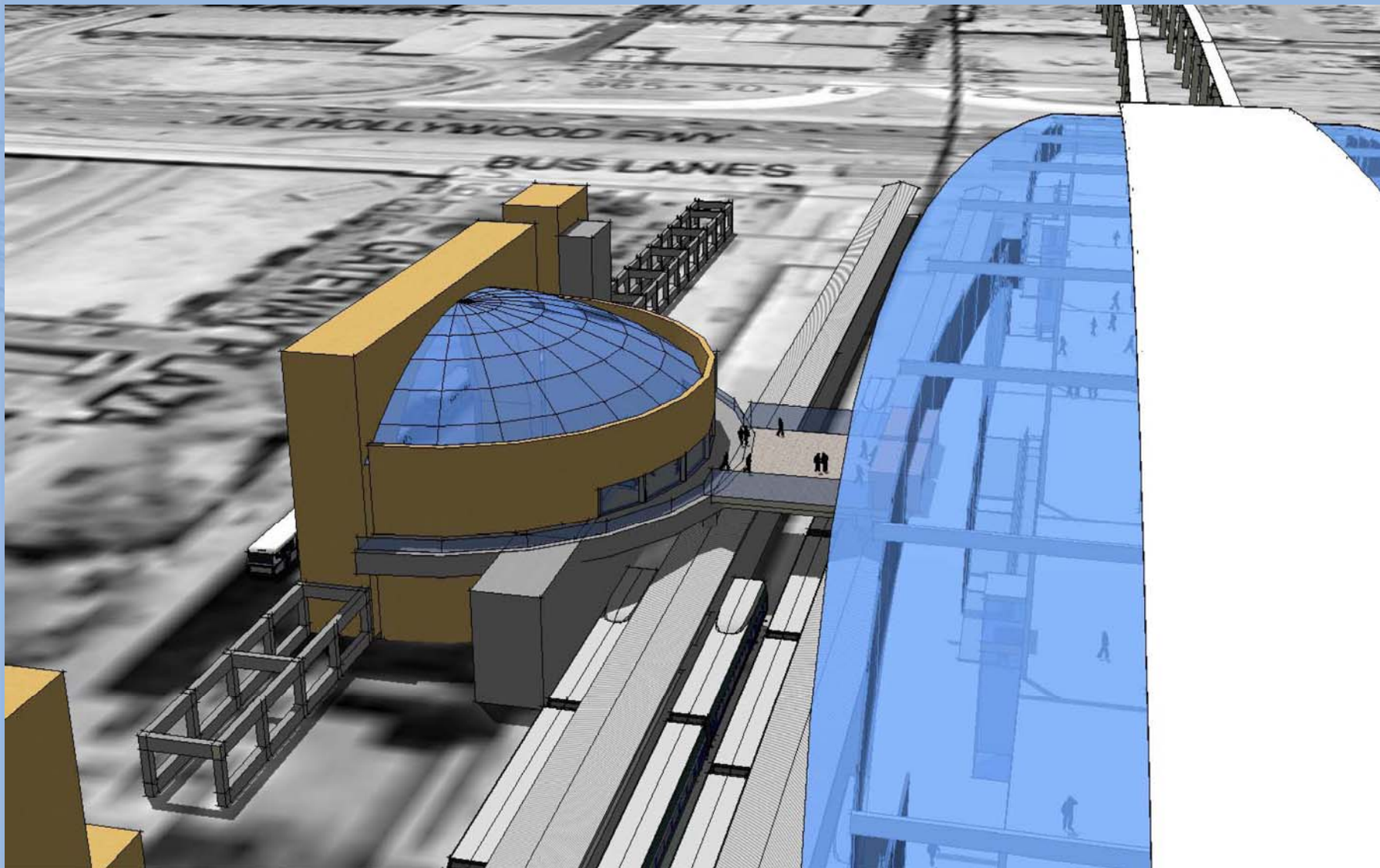


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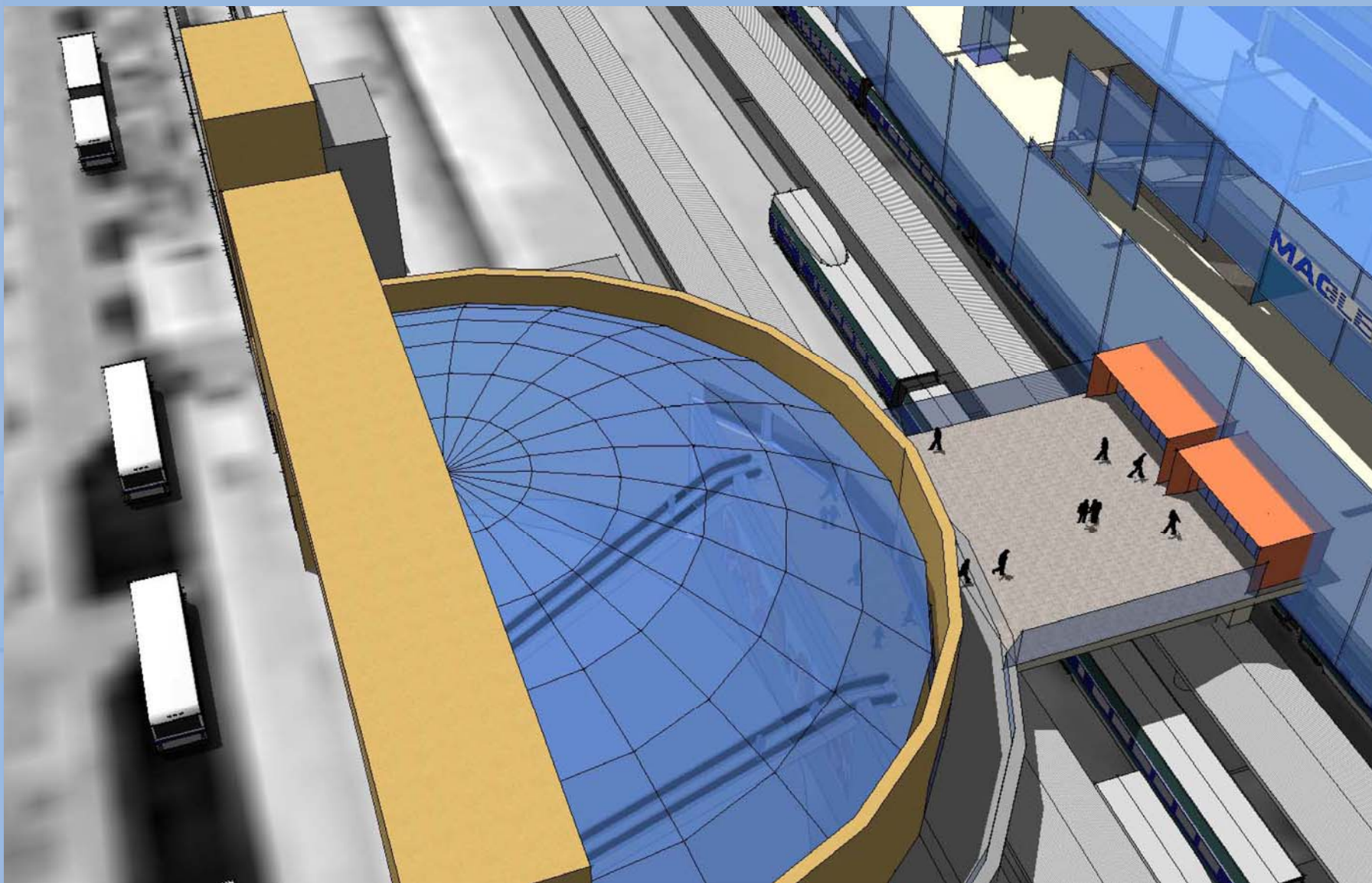




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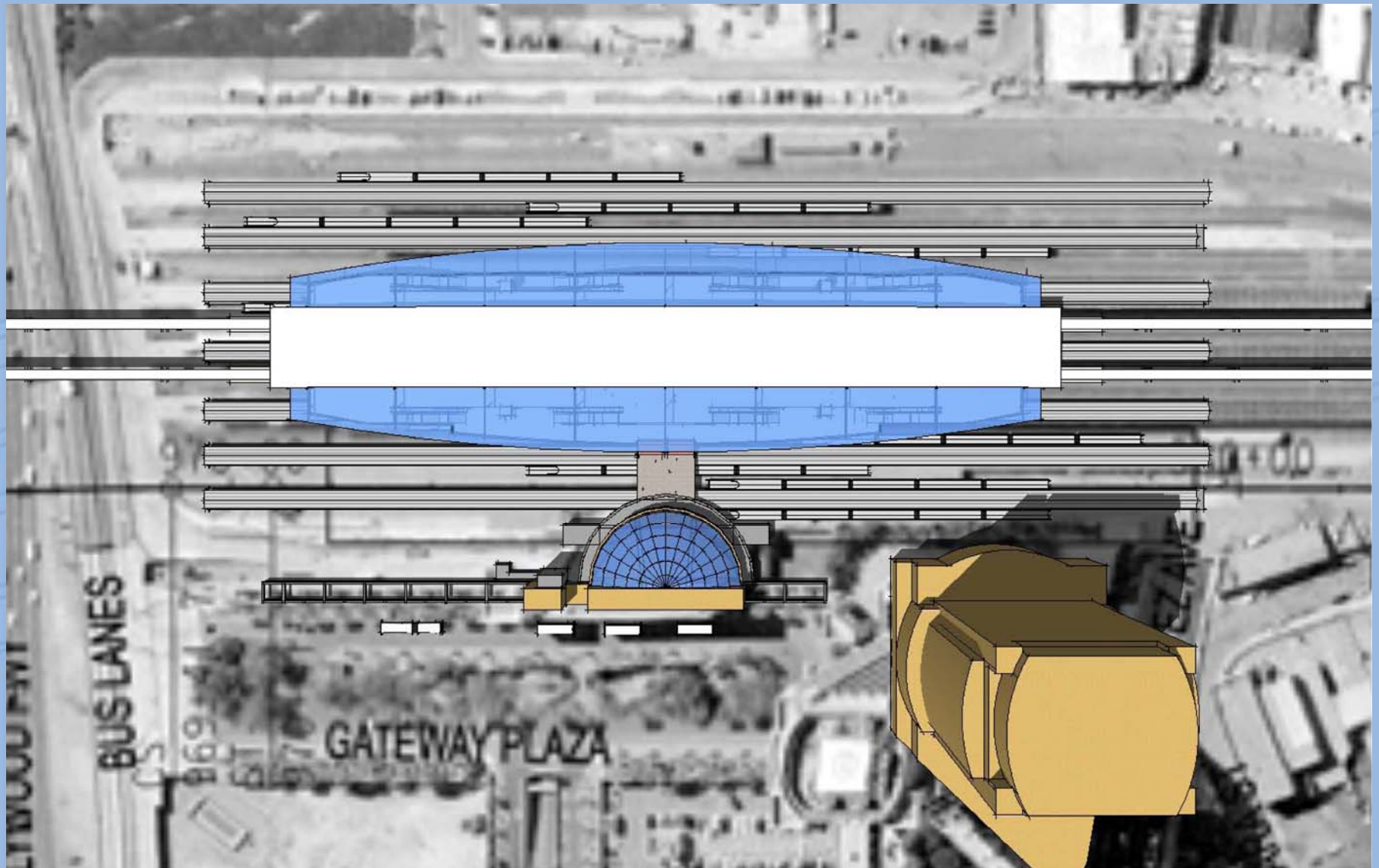


## STATION LAYOUT AND ASSOCIATED FACILITIES – UNION STATION





# STATION LAYOUT AND ASSOCIATED FACILITIES – UNION STATION



## WEST LOS ANGELES STATION (OPTION 1)





## STATION LAYOUT AND ASSOCIATED FACILITIES – WEST LA (1)





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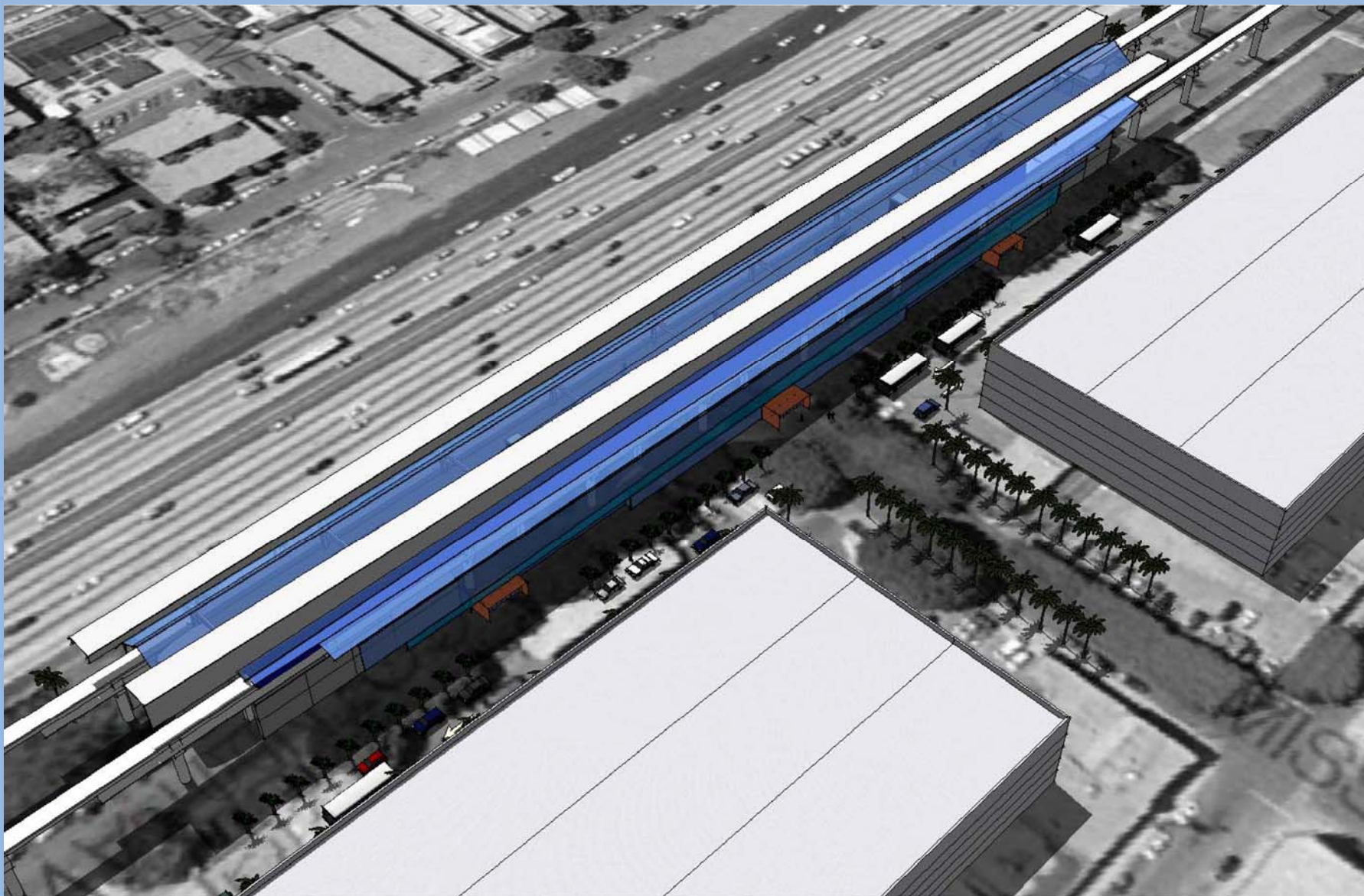




## WEST LOS ANGELES STATION (OPTION 2)

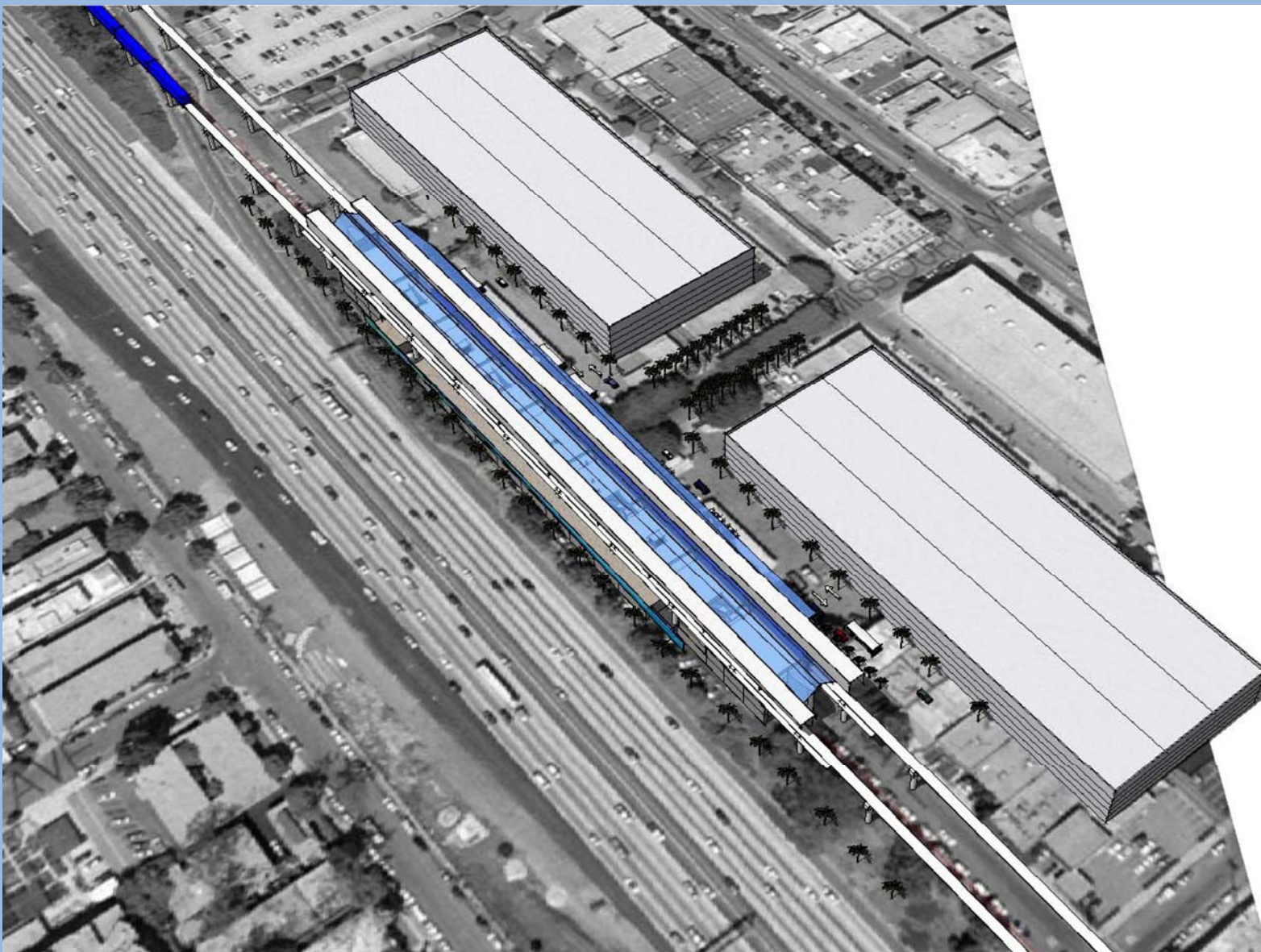


## STATION LAYOUT AND ASSOCIATED FACILITIES – WEST LA (2)





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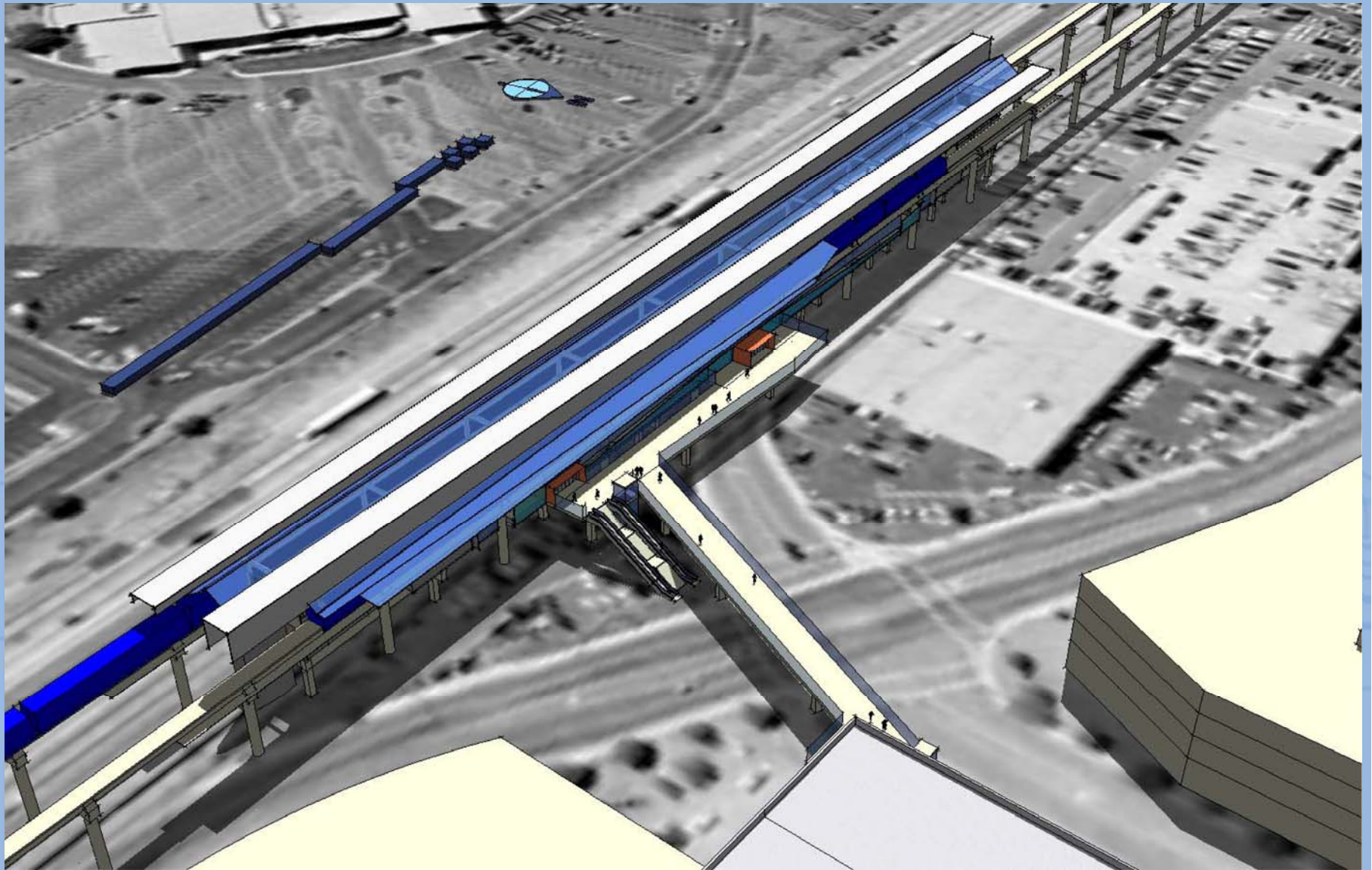


## WEST LOS ANGELES STATION (OPTION 2)





## PUENTE HILLS STATION (SR-60 ALIGNMENT OPTION)

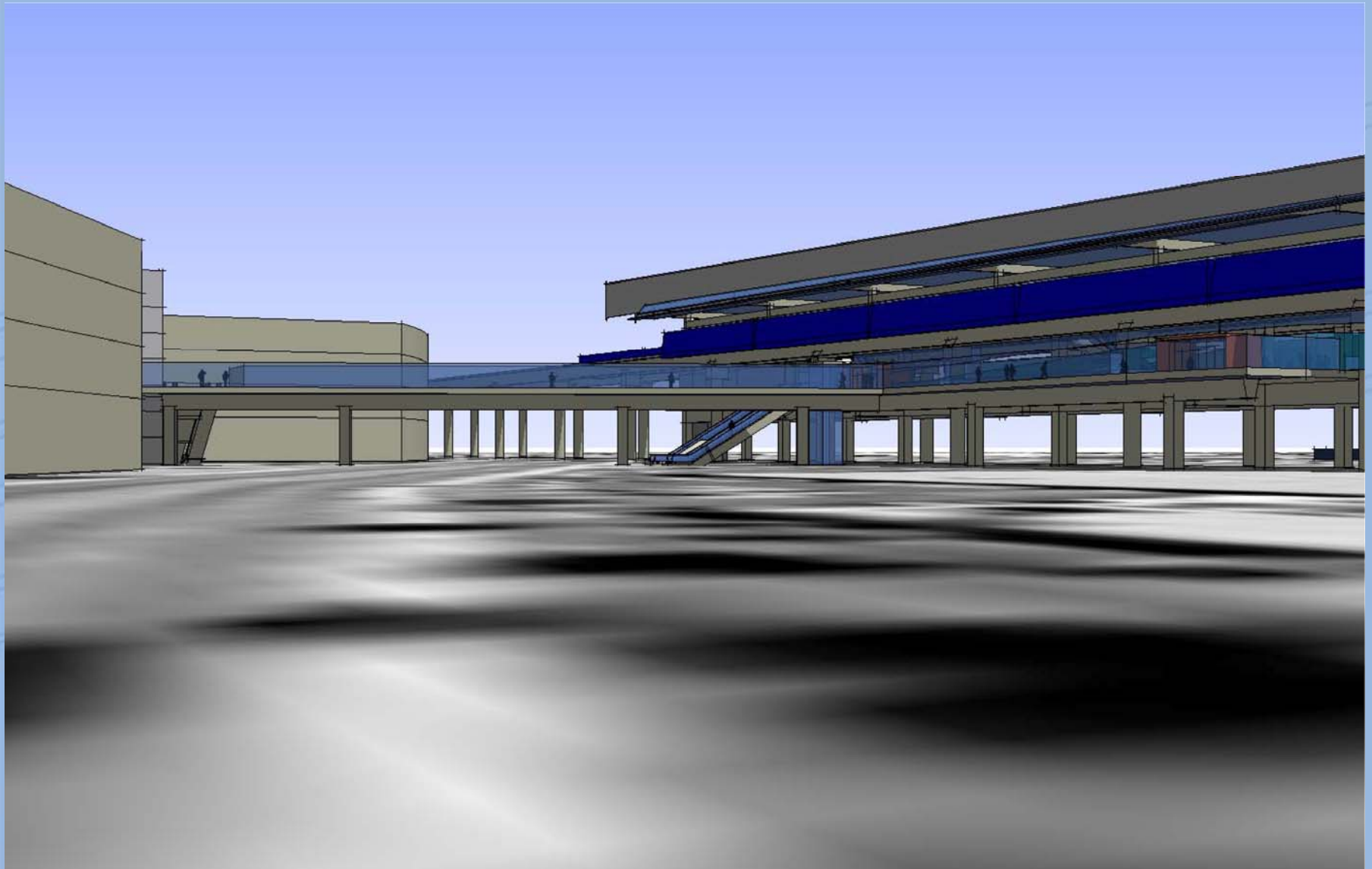




## STATION LAYOUT AND ASSOCIATED FACILITIES – PUENTE HILLS

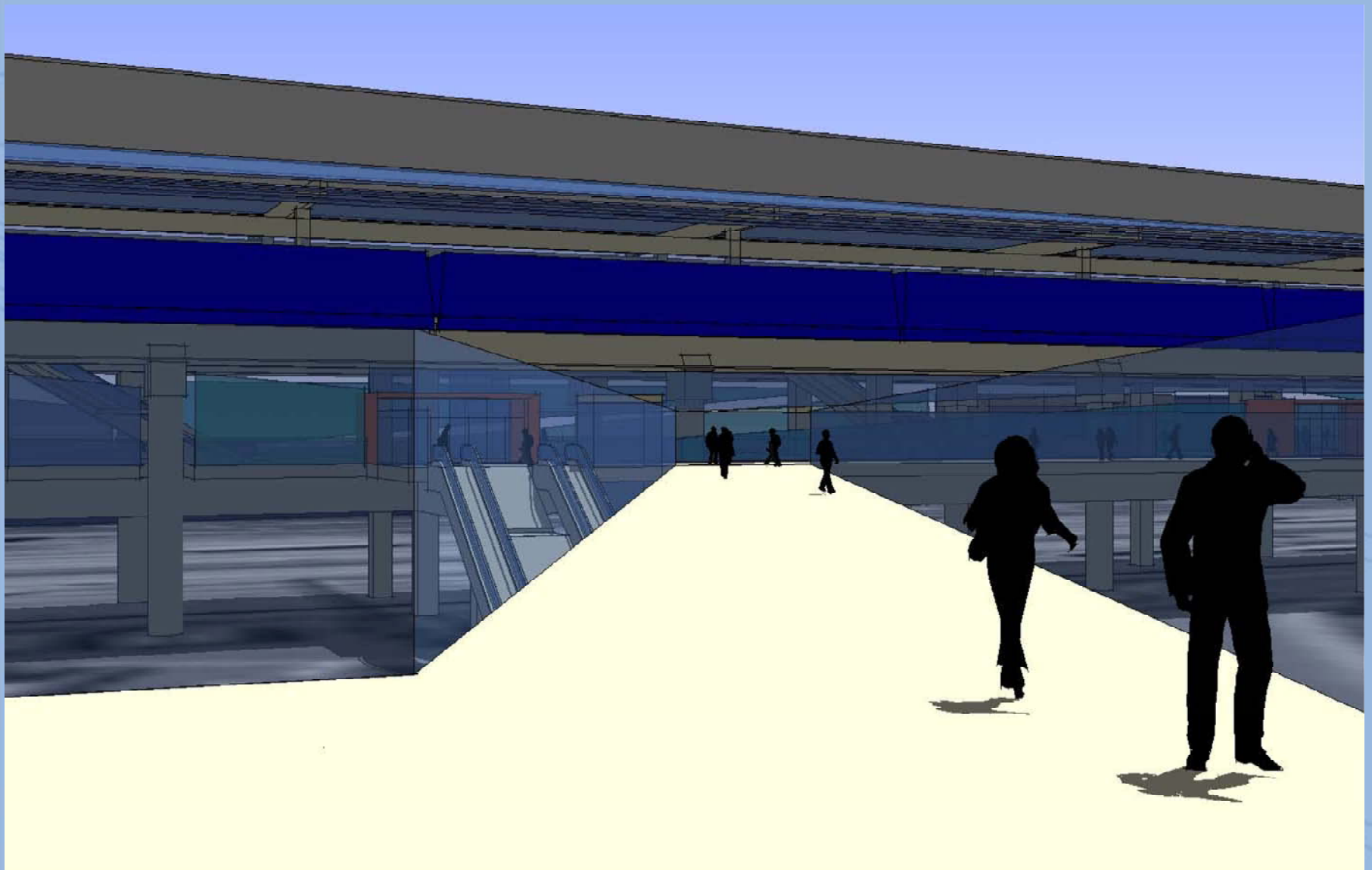


## STATION LAYOUT AND ASSOCIATED FACILITIES – PUENTE HILLS





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## PARKING MATRIX – PUENTE HILLS

Parking Structure	Floor Plate	Floors	Total
Bldg A Levels 1 - 8	153,994	8	1,231,952
Bldg B Levels 1 - 8	155,336	8	1,242,688
Grand Total			2,474,640
Area per car	375		6,599
Parking Required			6,591

## CITY OF INDUSTRY (UPRR ALIGNMENT - OPTION 1)





## STATION LAYOUT AND ASSOCIATED FACILITIES – CITY OF INDUSTRY (1)



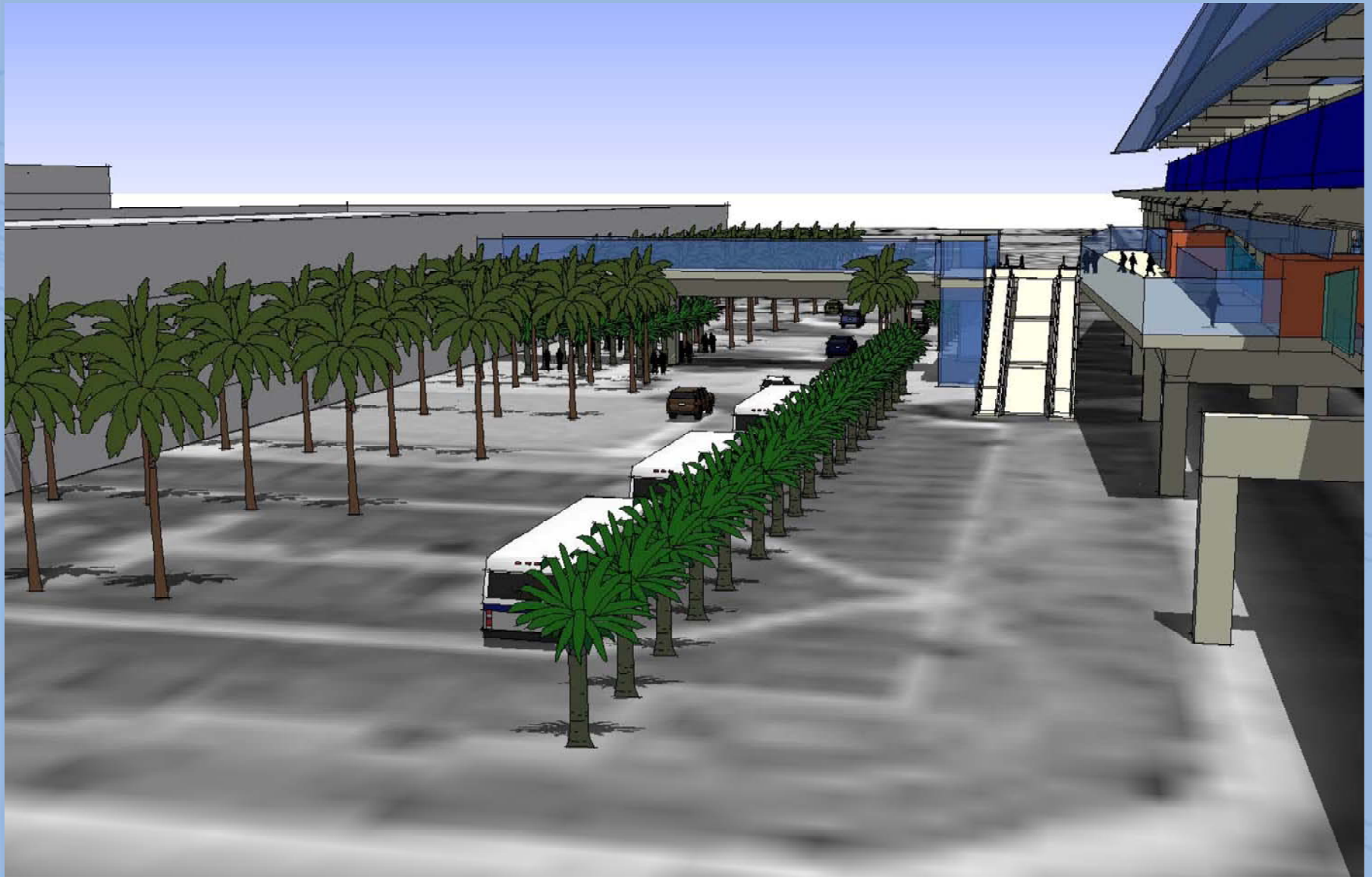


## STATION LAYOUT AND ASSOCIATED FACILITIES – CITY OF INDUSTRY (1)

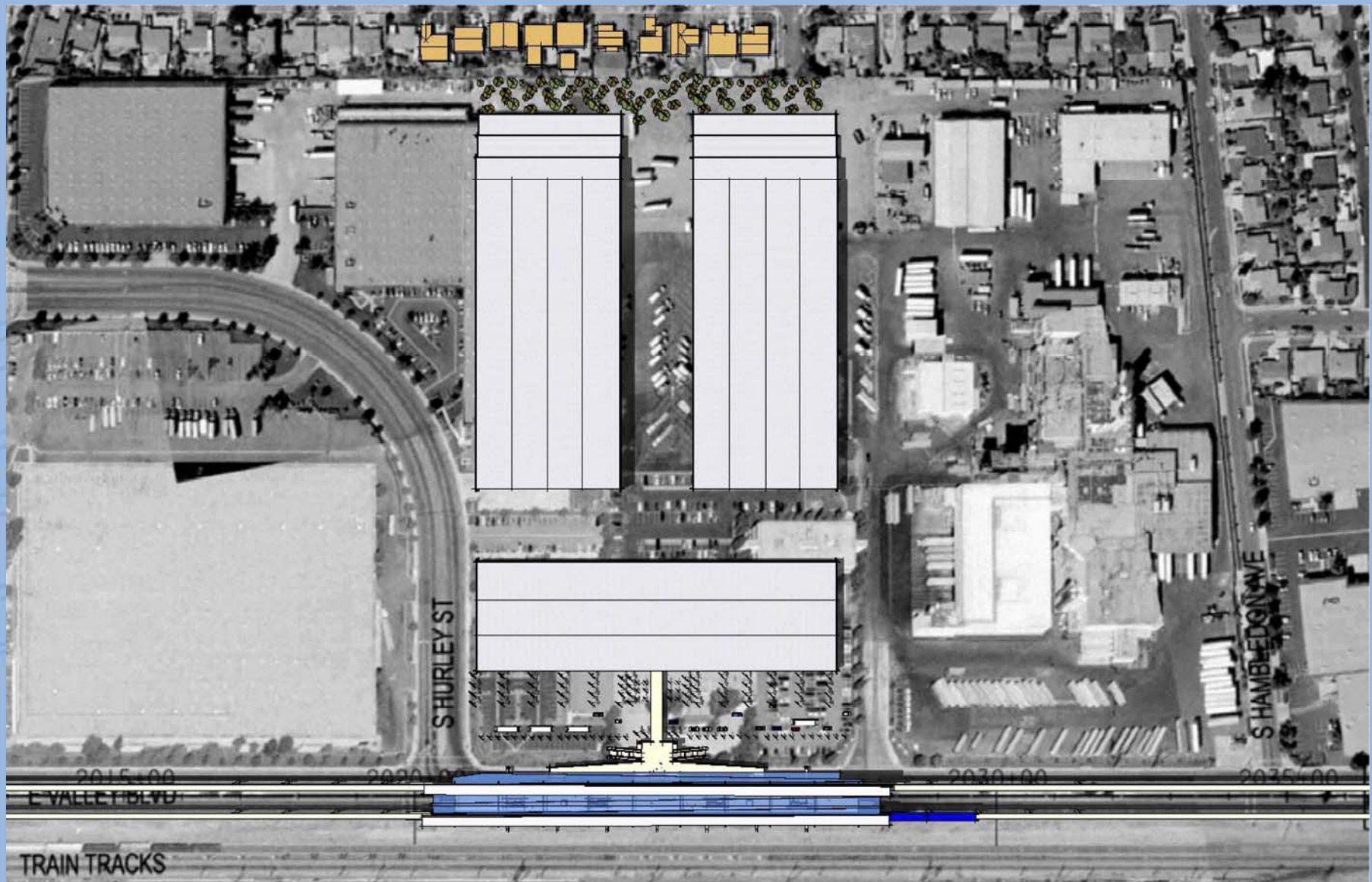




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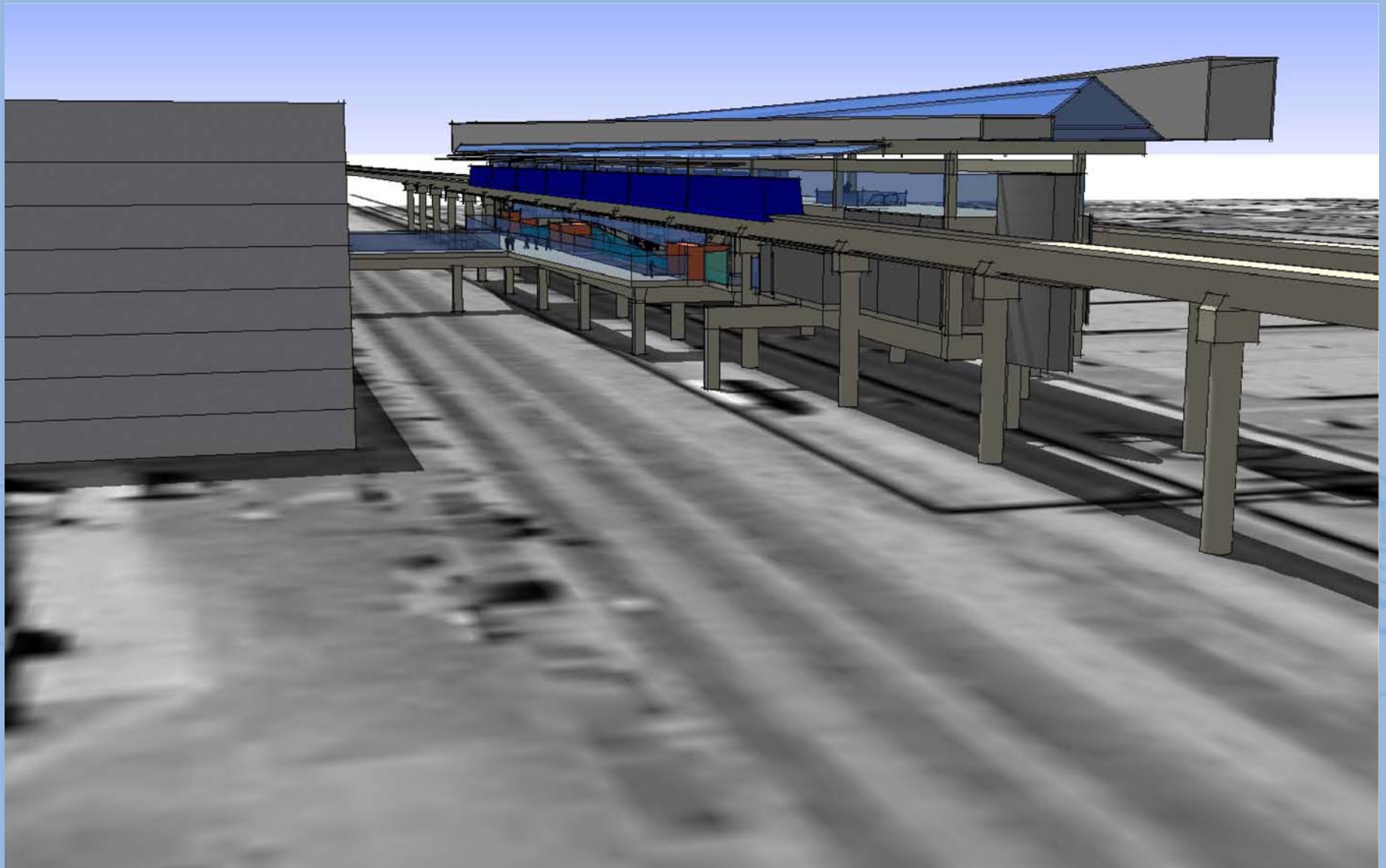




# PARKING MATRIX – CITY OF INDUSTRY (1)

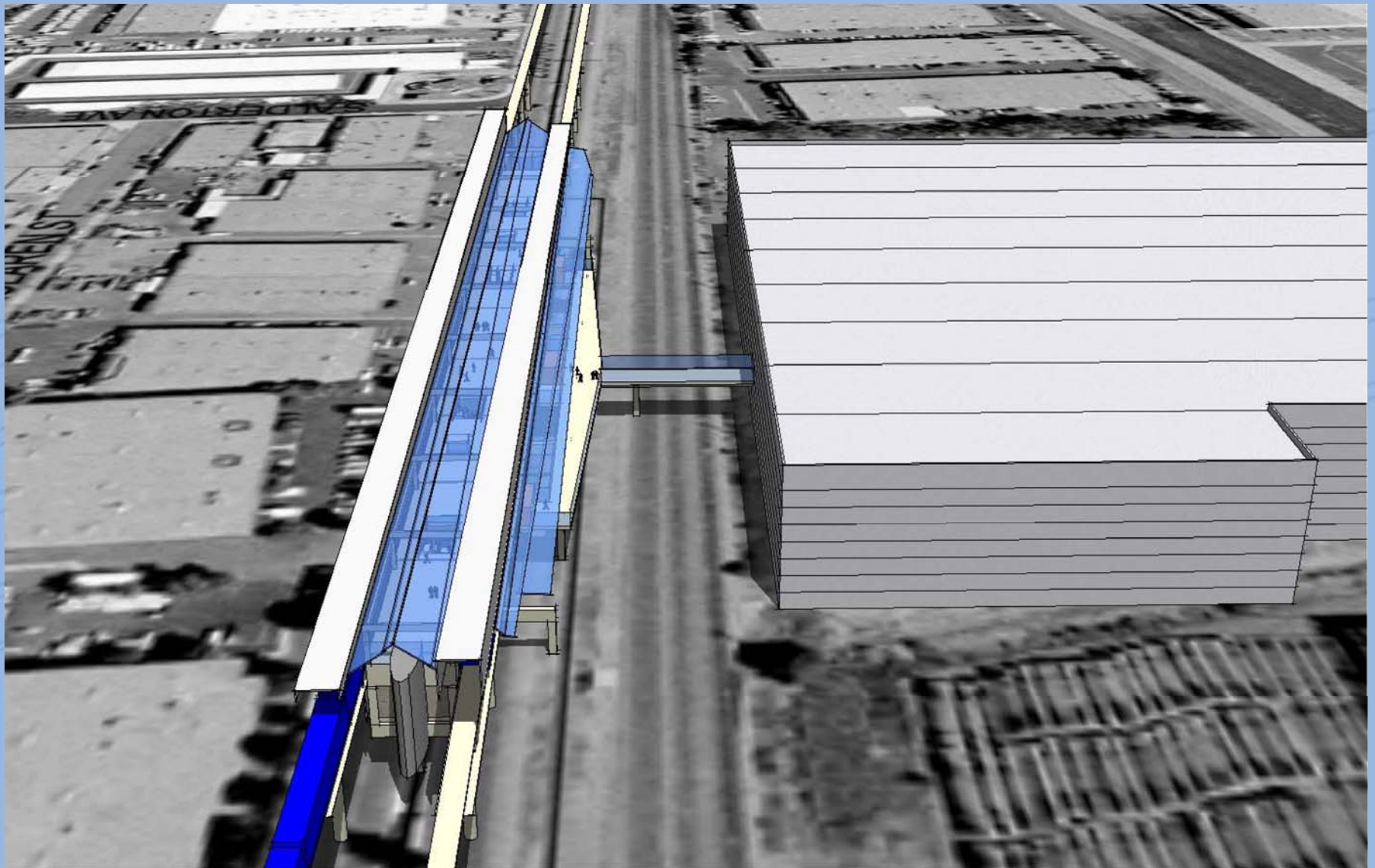
Parking Structure	Floor Plate	Floors	Total
Bldg A			
Levels 1 - 8	111,019	5	555,095
Bldg B			
Levels 1 - 3	154,607	2	309,214
Levels 4 - 5	135,653	2	271,306
Levels 6 - 7	145,130	2	290,260
Level 8	126,176	1	126,176
Total			996,956
Bldg C			
Levels 1 - 3	154,607	2	309,214
Levels 4 - 5	135,653	2	271,306
Levels 6 - 7	145,130	2	290,260
Level 8	126,176	1	126,176
Total			996,956
Grand Total			2,549,007
Area per car	375		6,797
Parking Required			6,591

## CITY OF INDUSTRY (UPRR ALIGNMENT - OPTION 2)

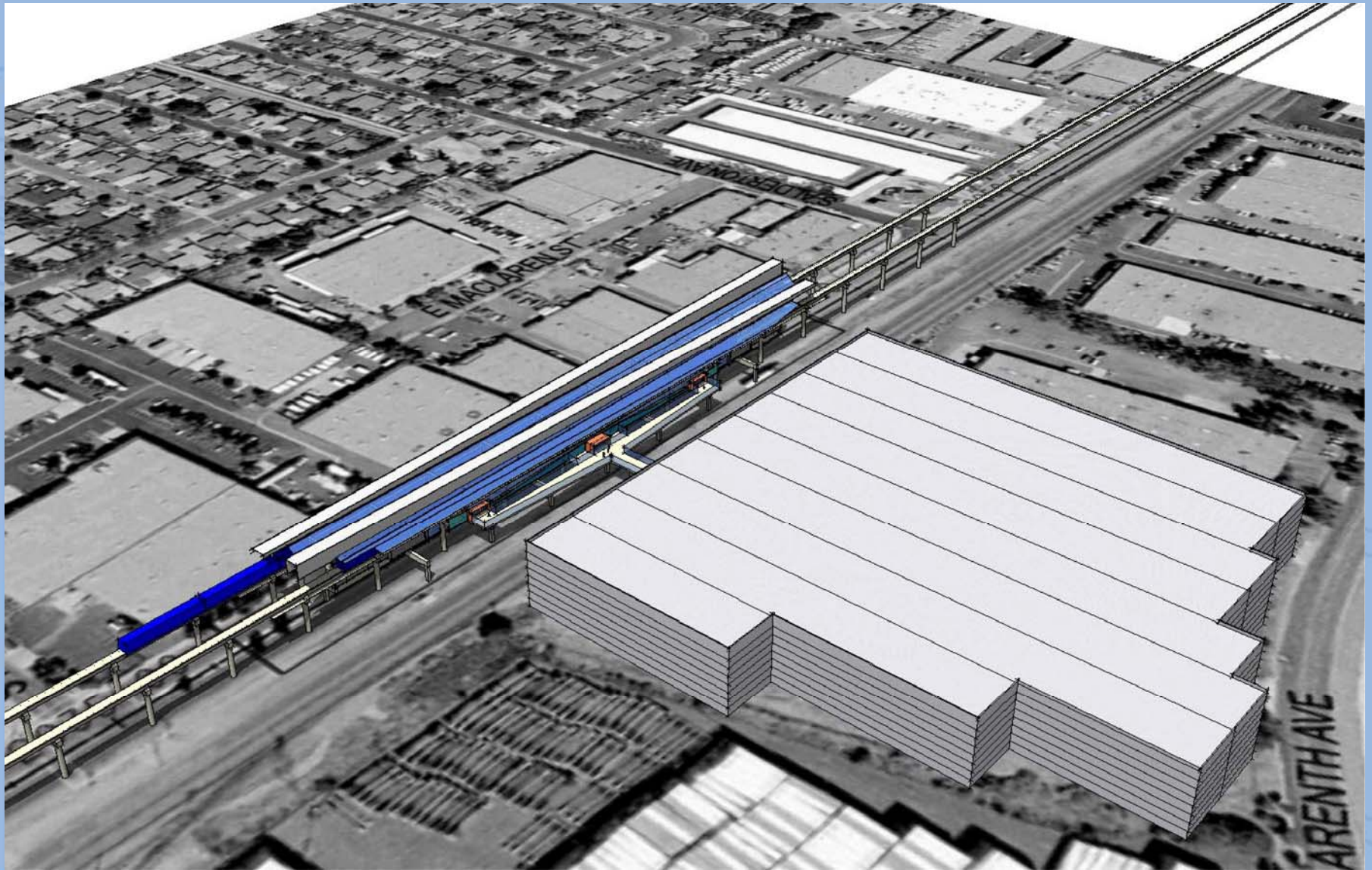




## STATION LAYOUT AND ASSOCIATED FACILITIES – CITY OF INDUSTRY (2)



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## PARKING MATRIX – CITY OF INDUSTRY (2)

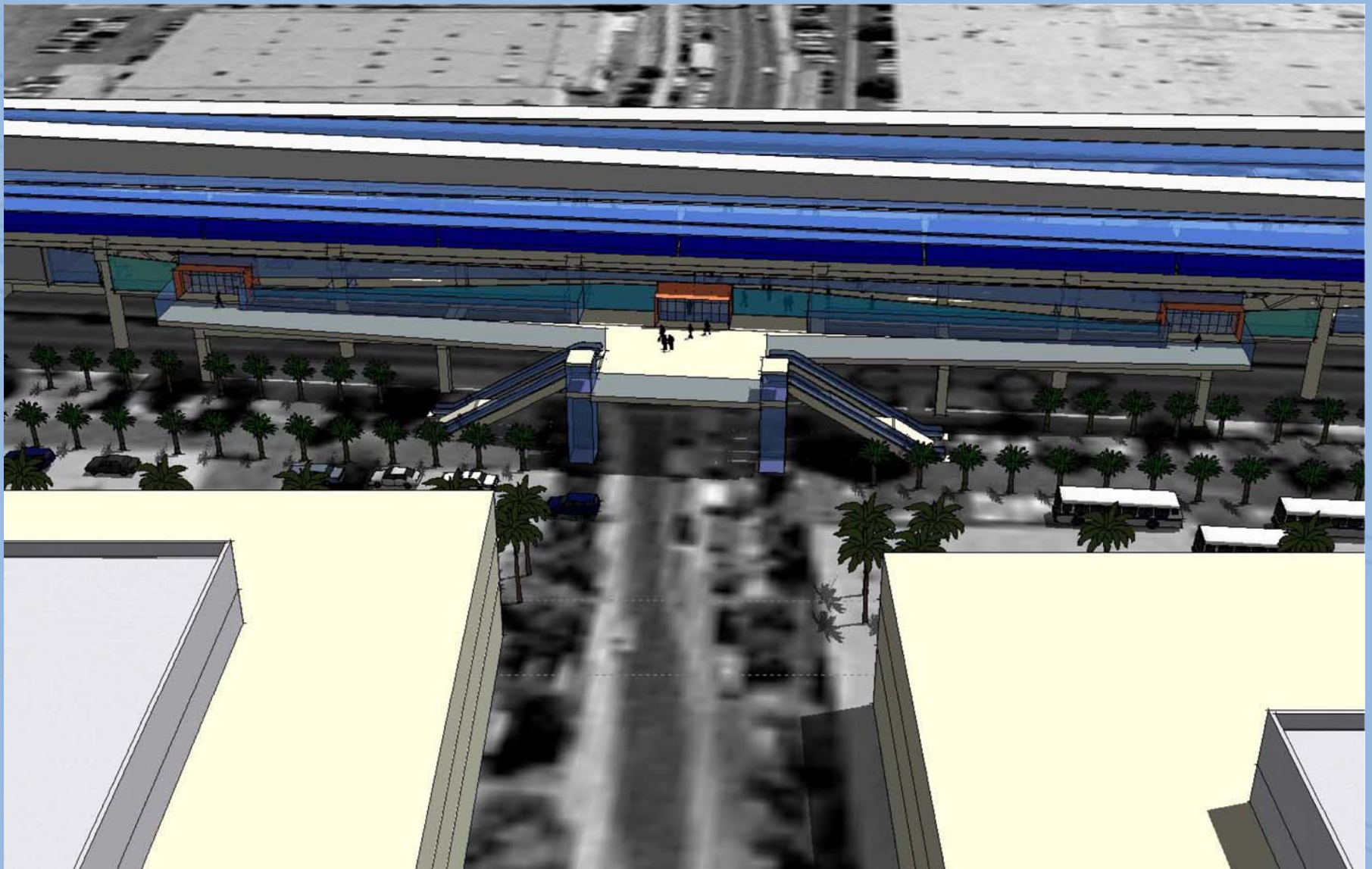
Parking Structure	Floor Plate	Floors	Total
Bldg A Levels 1 - 9	278,487	9	2,506,383
Grand Total			2,506,383
Area per car	375		6,684
Parking Required			6,591



## CITY OF INDUSTRY (UPRR ALIGNMENT- OPTION 3)

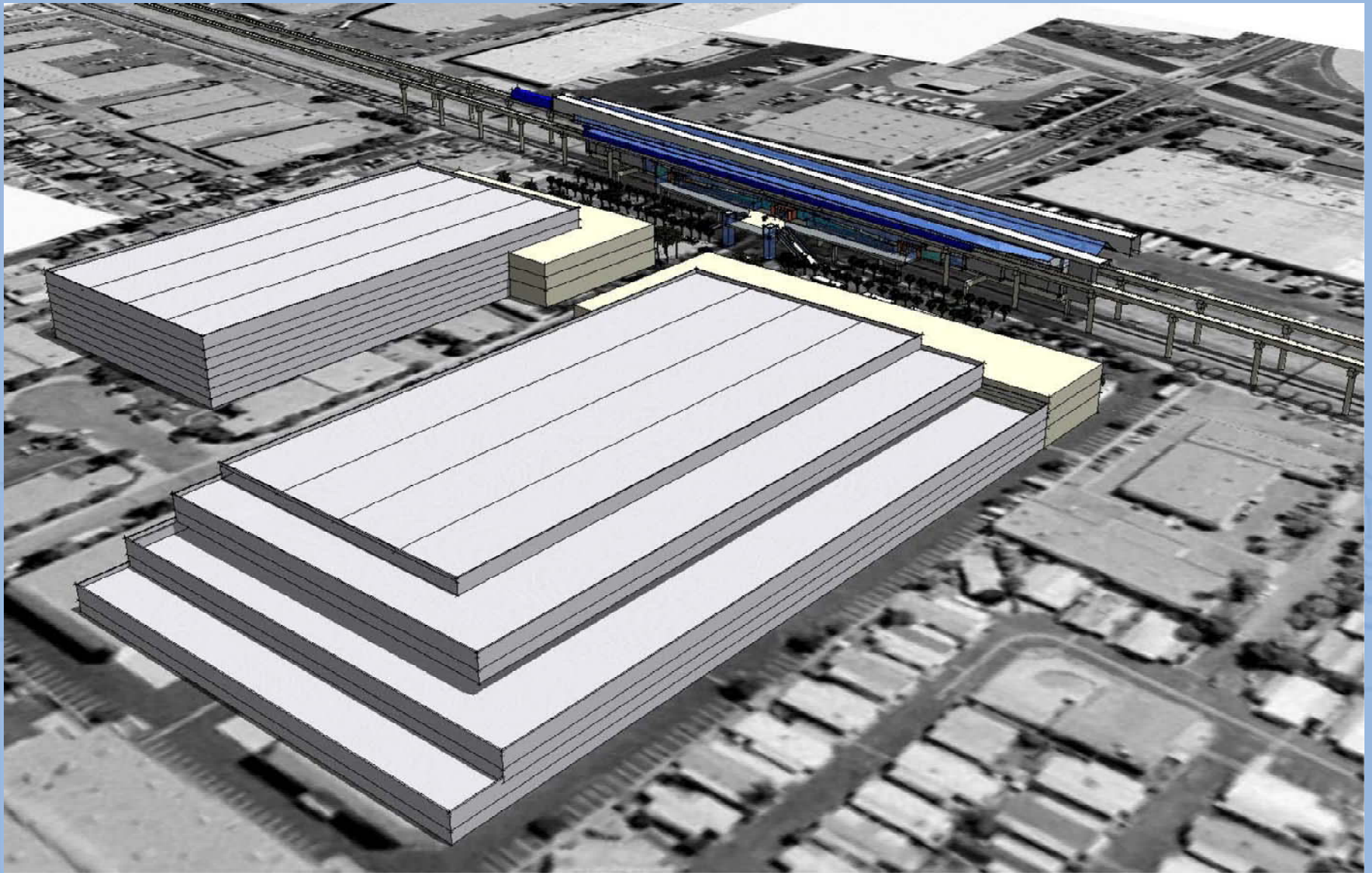


## STATION LAYOUT AND ASSOCIATED FACILITIES – CITY OF INDUSTRY (3)



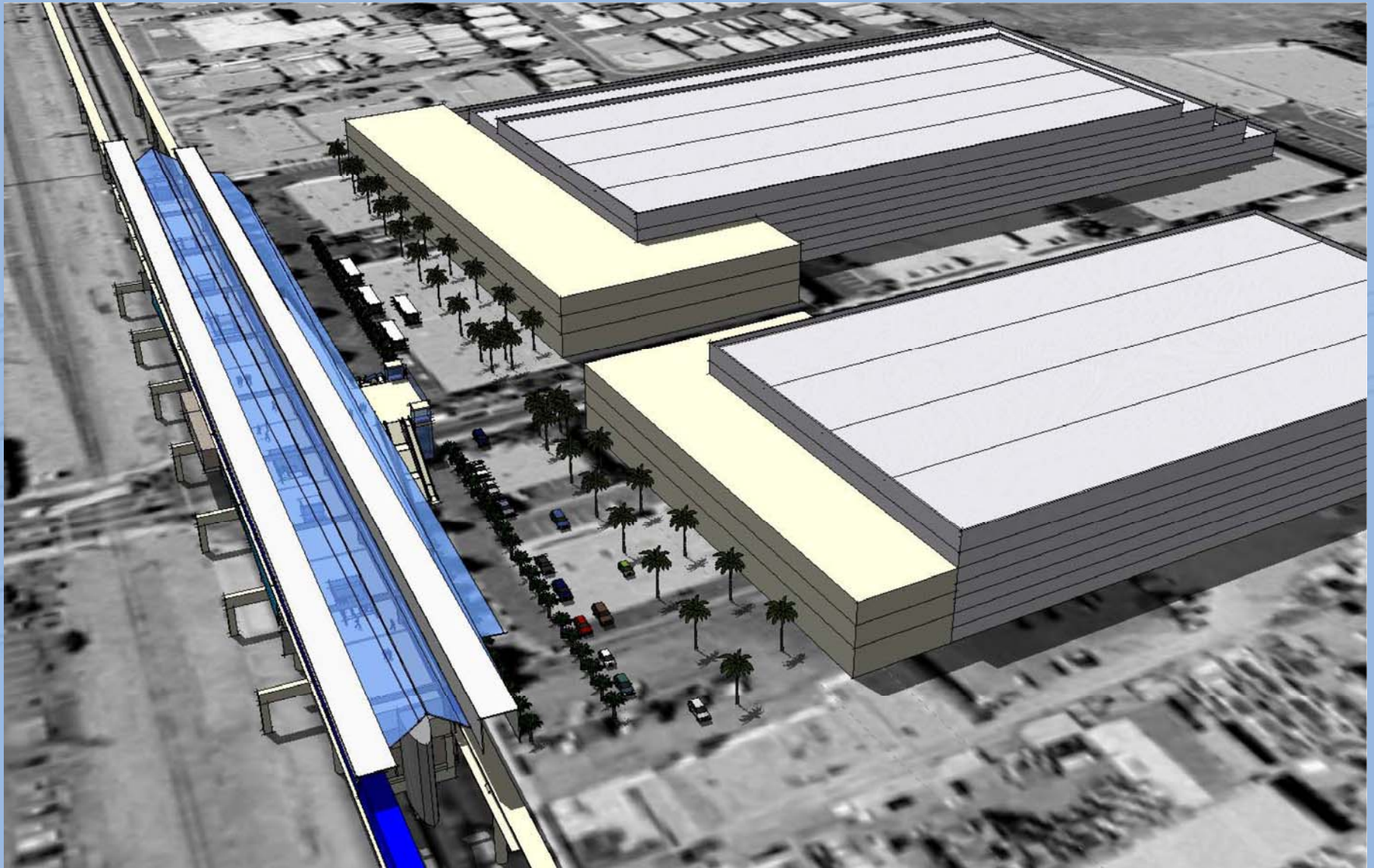


## STATION LAYOUT AND ASSOCIATED FACILITIES – CITY OF INDUSTRY (3)



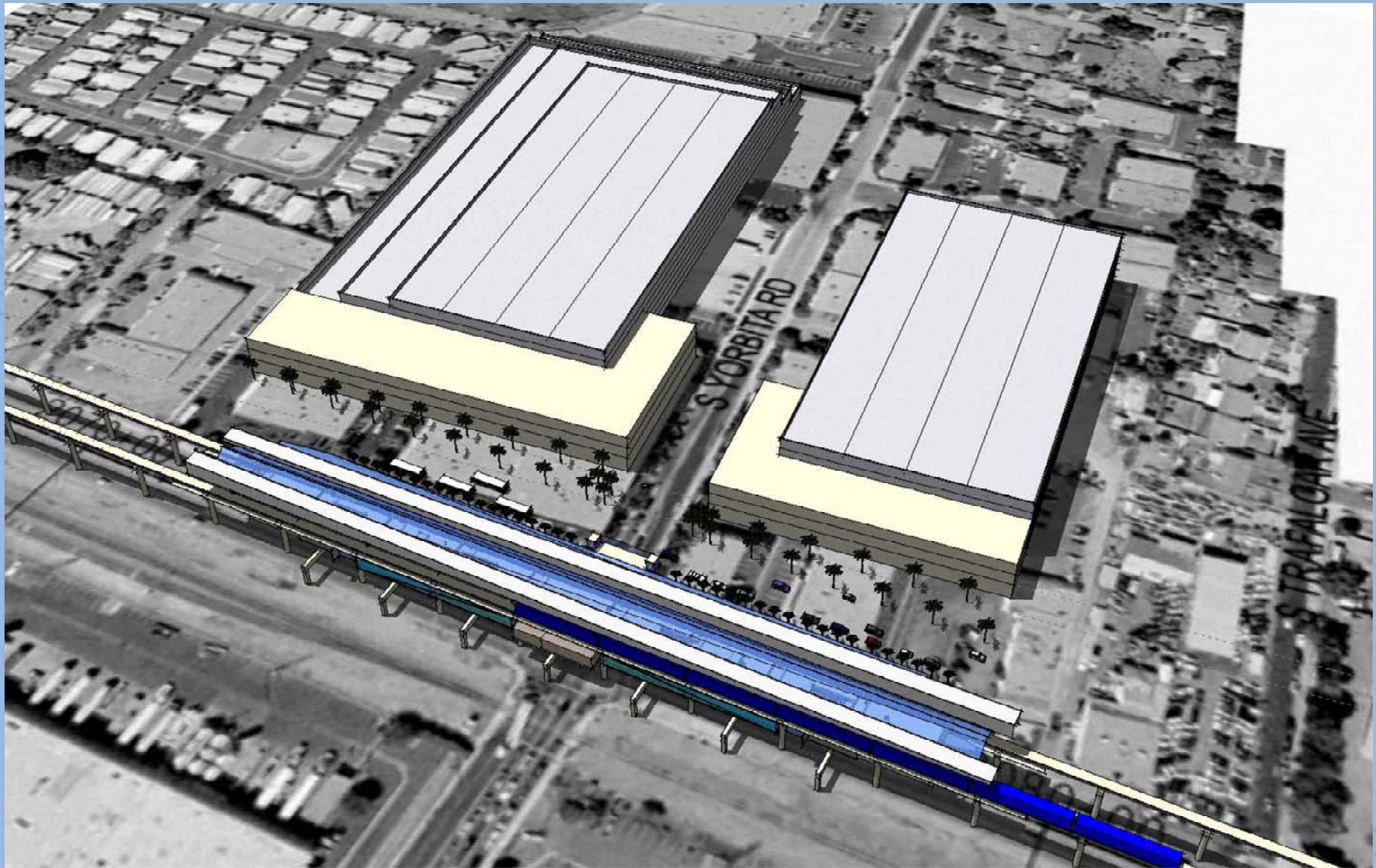


## STATION LAYOUT AND ASSOCIATED FACILITIES – CITY OF INDUSTRY (3)





## STATION LAYOUT AND ASSOCIATED FACILITIES – CITY OF INDUSTRY (3)





## STATION LAYOUT AND ASSOCIATED FACILITIES – CITY OF INDUSTRY (3)





## PARKING MATRIX – CITY OF INDUSTRY (3)

Parking Structure	Floor Plate	Floors	Total
Bldg A			
Levels 1- 3	231,333	3	693,999
Level 4 - 5	217,098	2	434,196
Level 6 - 7	169,248	2	338,496
Level 8	126,437	1	126,437
Total			1,593,128
Bldg B			
Levels 1-8	134,740	8	867,326
Total			867,326
Grand Total			2,460,454
Area per car	375		6,561
Parking Required			6,591

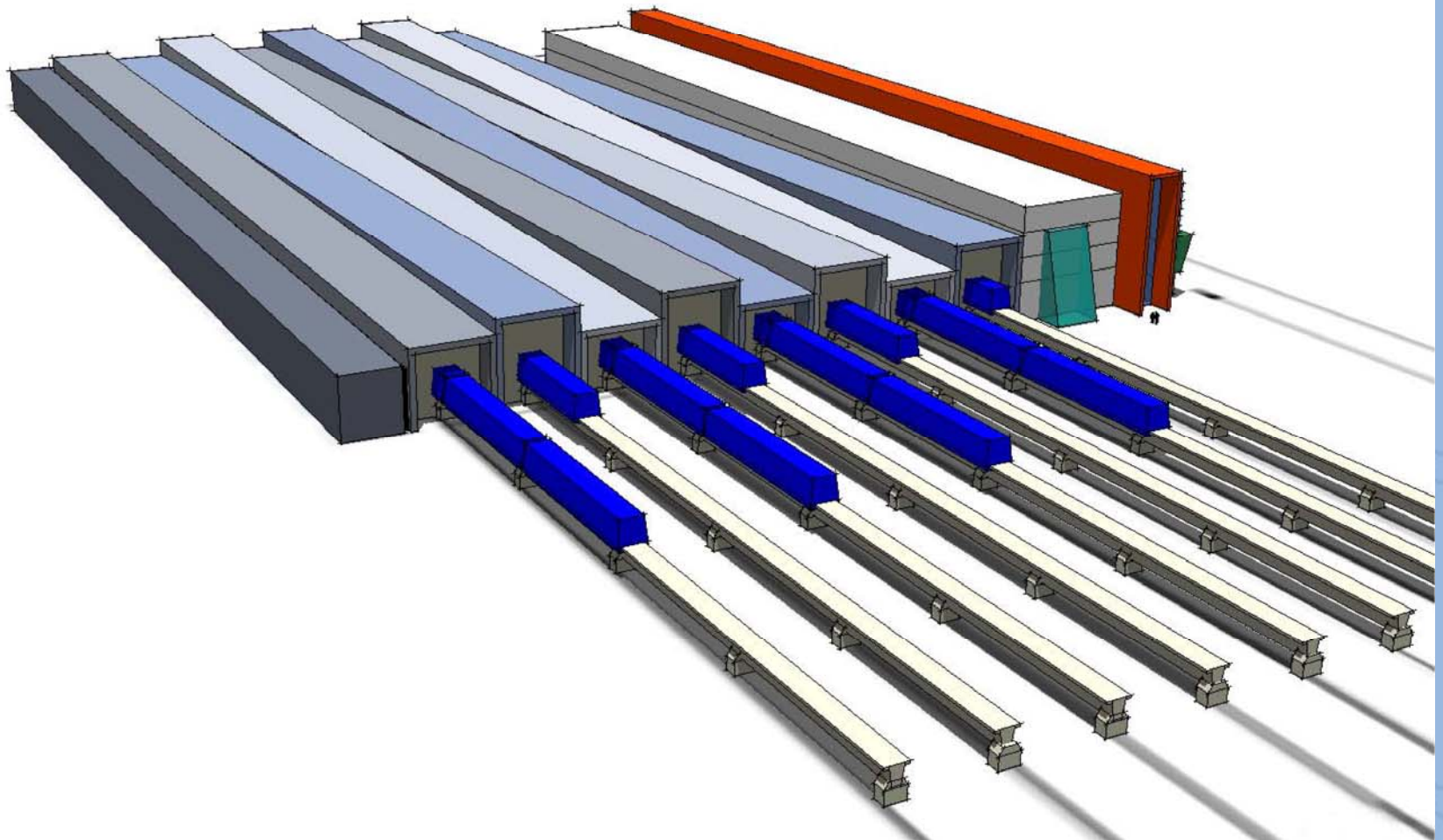
## CENTRAL MAINTENANCE FACILITY ACTIVITIES

- Scheduled Maintenance measures (all routes and vehicle equipment)
  - Inspection
  - Servicing
  - Overhaul
- Quick Exchange of Modules
- Unscheduled Maintenance Measures (short/long duration)
- Repair Measures
- Vehicle Integration (after shipment)
- Exterior Surface Treatment (Painting)
- Vehicle Battery Maintenance
- Parking of Maglev and Maintenance Vehicles
- Vehicle Washing, Interior Cleaning
- Maintenance Management /Preparation of Maintenance Vehicles (nightly)
- Offices and Workshops
- Spare Parts and Equipment Storage

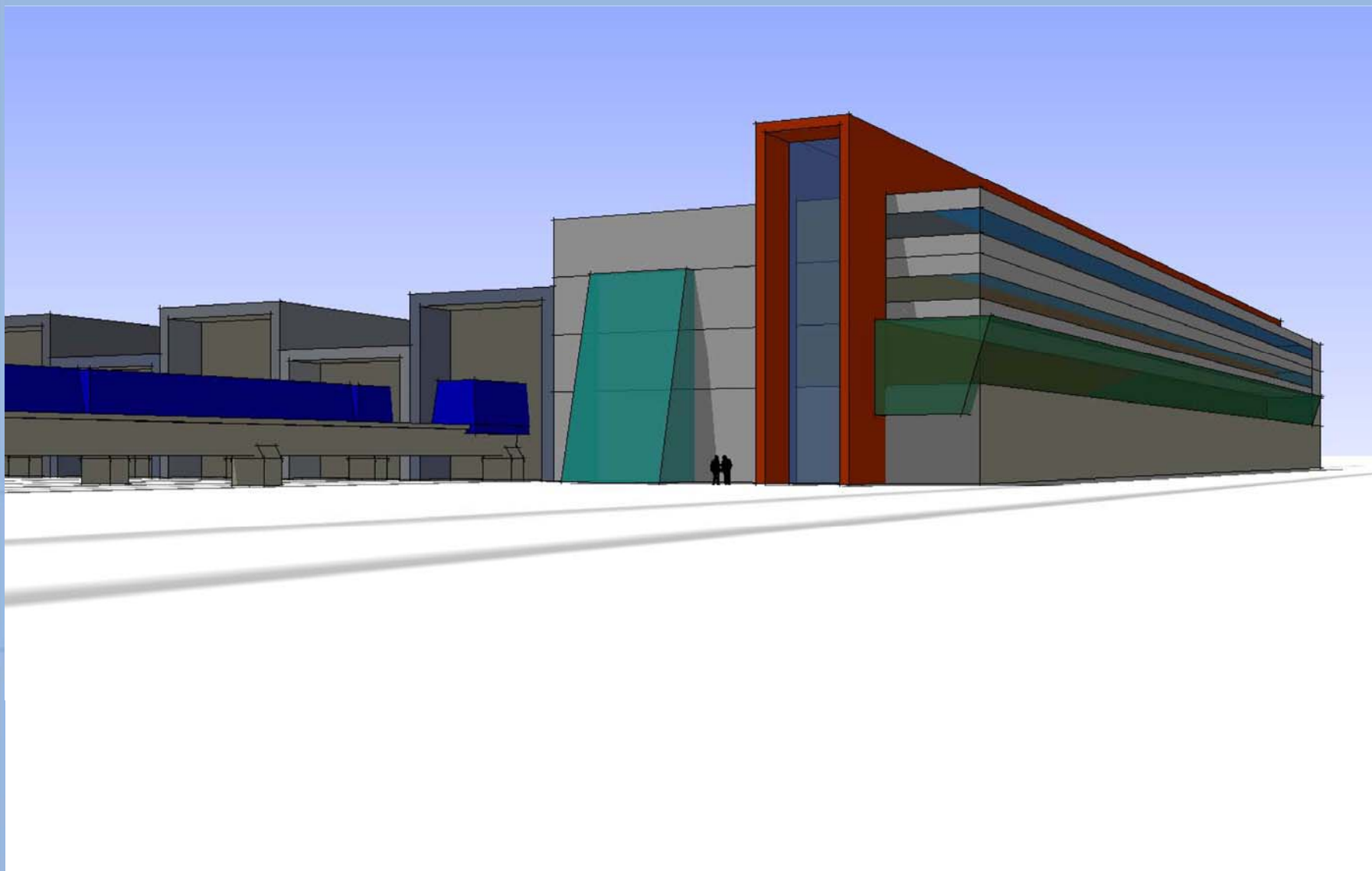




## CENTRAL MAINTENANCE FACILITY

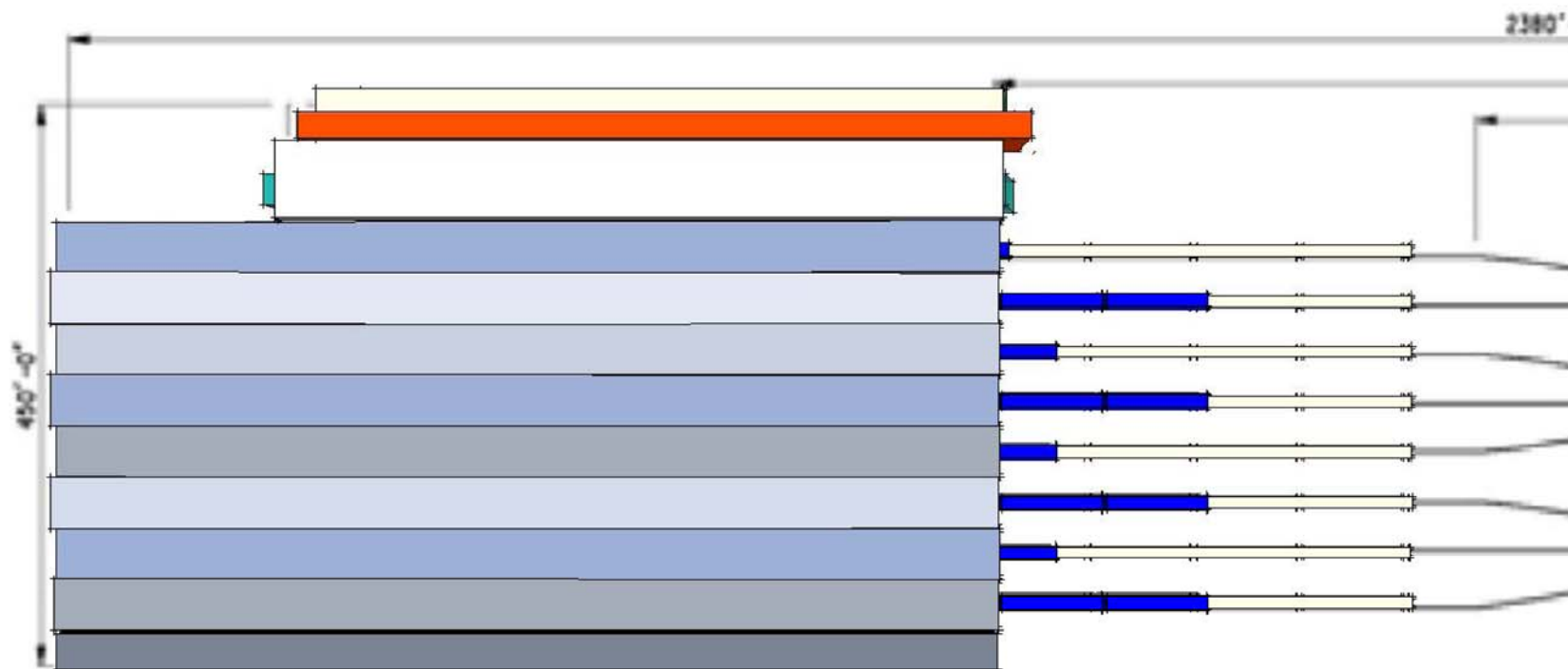


## CENTRAL MAINTENANCE FACILITY





# CENTRAL MAINTENANCE FACILITY



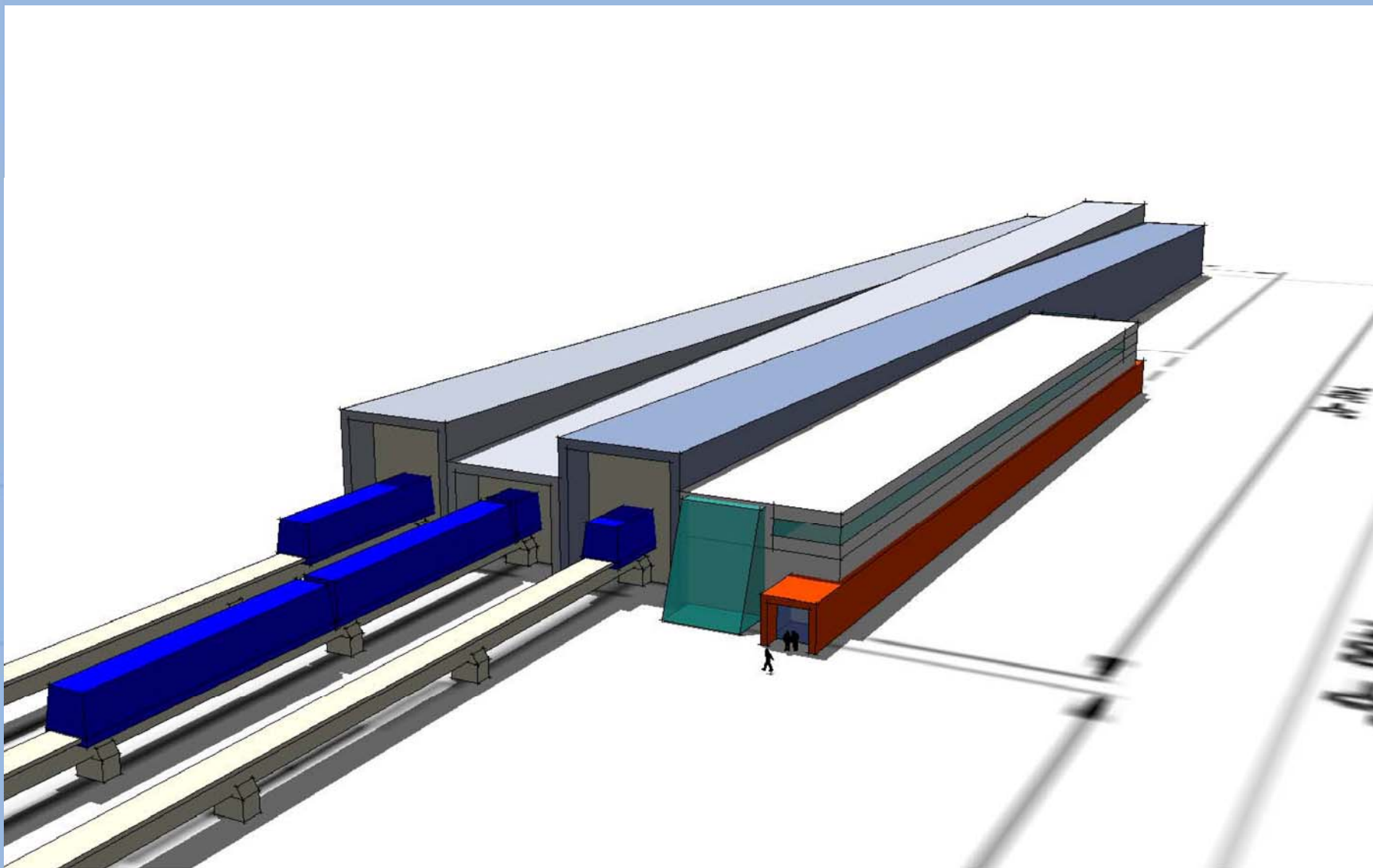
## DECENTRAL MAINTENANCE FACILITY ACTIVITIES

- Scheduled Maintenance measures (vehicle only)
  - Inspection
  - Servicing
- Quick Exchange of Modules
- Unscheduled Maintenance Measures (short duration)
- Parking of Maglev and Maintenance Vehicles
- Preparation of Maintenance Vehicles (nightly)





## DECENTRAL MAINTENANCE FACILITY

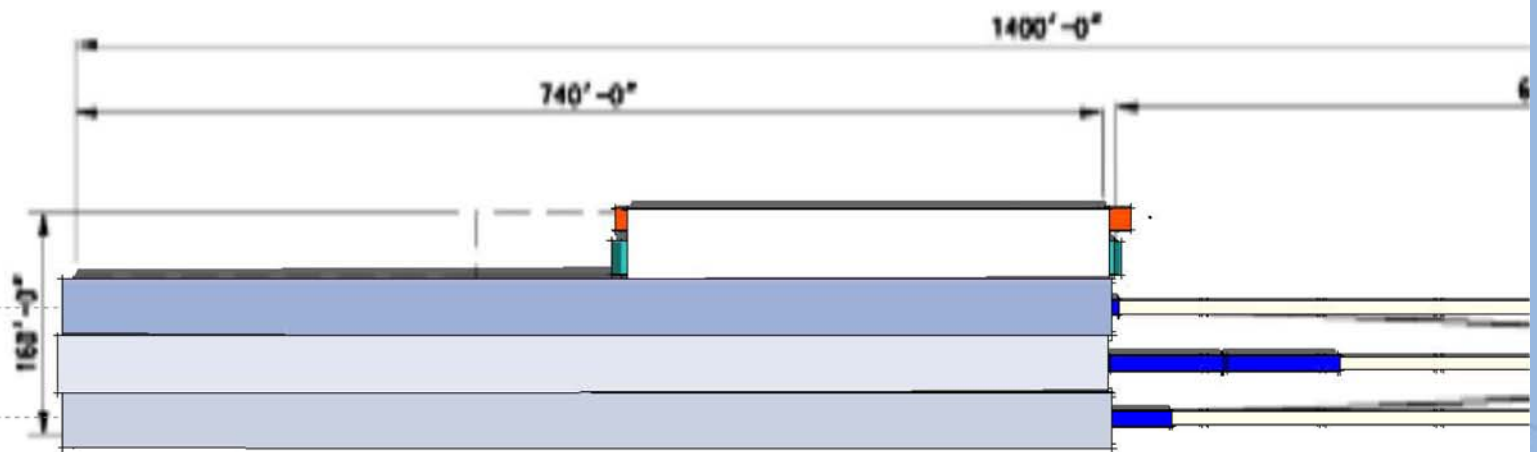


## DECENTRAL MAINTENANCE FACILITY





# DECENTRAL MAINTENANCE FACILITY



## MAINTENANCE FACILITY - CHINA





## MAINTENANCE FACILITY - GERMANY

